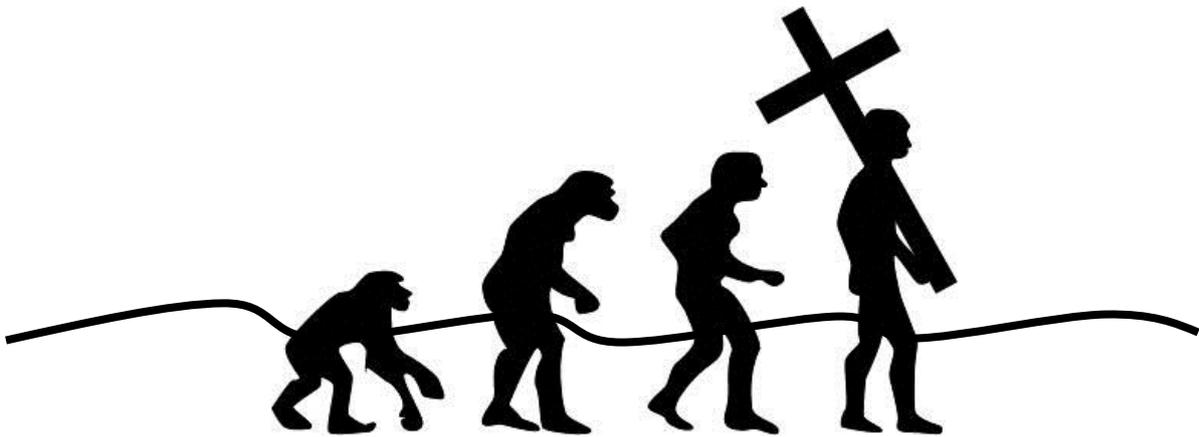# *"The Numb vs. The Dumb"*

## *Integral Framing-Analysis of the Online Creation-Evolution Controversy*



*Tim Stevens (2012)*

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## *Acknowledgements*

# *Foreword*

It is hard writing this foreword. The foreword usually describes how the research originated and how the writer, in person, brought about the research and the writing. I do not know exactly how or when this research originated. My mother would say that it all started twenty years ago when I started to ask difficult questions. My supervisor Prof. Dr. Noelle Aarts would say that it started two years ago when the proposal was approved. I remain in doubt. Yet, I am confident that these doubts instigated the inspiration for doing this research, enhanced the impartiality of the process, and augmented the quality of the results.

As an interpretive researcher who sneaked on the web and freely quoted disputants to deconstruct their perspectives on the issue, I think it is fair to share my perspectives on the issue, so that you can interpret mine.

For me, evolution theory is the most precious theory for humankind. I have no doubts that evolution theory accurately describes how this colourful world came about: Increasingly complex structures of matter turned into life; a world that was made from matter, yet much more than that. Then, increasingly complex organisms developed consciousness; a world created by organisms, but again of a very different kind. And now, here we are, reflecting on this whole process. Life has become conscious of itself. I am grateful to live, right now, yet at the ever-present startling and creative edge of evolution.

The creation-evolution discussion is not about the past, it is about the origin of any-thing ever-present. It is about 'creation' in general, about a first push, an uncaused cause, about emergence, something that acts rather than reacts. In the past, people used to belief that the source of all was God. God created the world, and God had omnipotent powers to change people's destiny. Nowadays, people do not belief in God and predetermination, but belief in themselves and self-determination. Although these views seem opposite, they are both 'creationist' in some sense. It used to be a taboo to question God's will. Nowadays the greatest taboo is to question free will. Yet, I am not sure that 'I have free will', because I am not sure how to define myself or 'I'. Sometimes I feel 'I am doing it', other times I feel 'it is doing me'.

What I think it all comes down to is that whenever we define anything, this thing is already the result of the perspective that we have taken; the line that we have drawn. In reality there are no separate things, just one big happening. A thing is a think, a unit of thought. It is a cognitive demarcation or conceptual line that distinguishes an inside from an outside in space and time. In order to see, say or know any 'thing' at all, you have to draw the line somewhere.
We generally explain 'things' by pointing at its causes. And so 'why it is?' is answered by 'because that was'. This is basically what science does. Science always says: this is, because that was. 'That' is always something prior and/or outside of 'it' – it is temporally and/or spatially outside the thing we have defined to explain, whether 'this thing' is mental or material. But this is only different from that if we draw a line in-between. The whole game of science starts only after drawing the line, which separates points in time and/or space. We can then argue whether it is either neurological activity causing the thought, or the thought causing neurological activity. But of course every this can be a that and every that can be a this, depending from what side of the line you take a perspective. Anytime we say this is, because that was, we take 'that' as a starting point, an uncaused cause. But what is 'that' really?

# *Summary*

This study provides an insight into the ideological and social dimension of the online creation-evolution controversy. We conduct an issue-framing analysis, an identity-framing analysis and a situational framing analysis on Google Discussion Groups, of which the convergence of results engenders an understanding of 1) the ideological dimension, 2) the social dimension, 3) the relation between ideas and identities and 4) the role of social identity in the online controversy.

This thesis consists of two parts. Part one 'Integral Methodological Framework', provides a theoretical and methodological framework for the framing-analysis of the creation-evolution controversy. Part two presents the methods and results of the actual 'Framing-Analysis'. Although part 1 serves the actual framing-analysis, it comprises a new trans-disciplinary approach to framing that is of interest to a broad field of science, and is therefore presented apart from the actual framing-analysis in part 2, allowing for it to be read independently.

The integral methodological framework of part 1 provides a conceptualization of framing based on Integral Theory (Wilber, K. 2007). We define framing trans-metaphysically in terms of perspectives. A frame is a perspective, and framing is perspective-taking. Perspectives are apparent in the exterior world in the form of language (language can be conceptualized as a system of perspectives), but also build the interior world (perspectives precede perceptions, and a world-view can be mapped by trans-metaphysical perspectives). Both in language and in our minds we have a range of perspectives to choose from to represent or understand the world, and the selection of a perspective is an act of framing. This conceptualization of 'framing' is used because it 1) allows language to be studied as a holistic phenomenon (instead of interpreting 'frames' already as passive/active, individual/social, cognitive/interactive, etc.), and 2) allows for a conceptual distinction that is significant to understand this case's dynamics: ideology and identity. In part 1, we use integral theory to show how opposing metaphysical world-views in the creation-evolution controversy can be integrated in a clear and neutral framework, and how these different world-views (different perspectives on the issue or identity), transpire in language.

This framework is used in part 2 'Framing-analysis', comprising an issue-, identity- and situational-framing analysis.

The issue-framing analysis identifies the various ways disputants discuss 'what's at issue', resulting in seven issue-frames. A disputant does not use a single issue-frame but a combination of issue-frames. Based on the correlation of issue-frames on CE-Groups we identify four ideological-categories: Objective Evolutionists, Interpretive Evolutionists, Interpretive Creationists, Correct Creationists. Although the creation-evolution controversy is framed as a two-sided conflict over 'One Objective Truth', the discussion hosts multiple perspectives on multiple issues that make up four coherent ideological-categories.

The identity-framing analysis reveals that of the four ideological-categories, only two groups are identified by disputants: creationists and evolutionists. The communication on online creation-evolution discussion groups is influenced by group-bias because disputants group each other based on minimal cues into referential categories before there is interpersonal communication. Disputants use referent-frames ('social categories') mostly for out-groups, indicating out-group homogeneity bias. Moreover, the identity-groups use distinct identity-frames to make sense of identity, indicating positive distinctiveness.

The situational-framing analysis makes clear that the two identity-groups use different frames within intergroup and intragroup discussions. In comparison to the intergroup discussion, the intragroup discussions of both creationists and evolutionists show more interpersonal communication (less social categorization, more feedback, and include multiple subjective realties). The online creation-evolution controversy is an identity-conflict because the use of issue-frames and identity-frames corresponds to two conflicting social-groups and is dependent on in-group and out-group discussions of these groups.

## Table of Contents

## *Introduction*

The combat between Noah's Ark and The Beagle has lit up again. After some years of silent waters, the declaration of 'the Year of Darwin' in 2007 (Shapin, 2010) again fuelled the debate between creationists and evolutionists. In England scientists were forced to choose side, in America it led to an 'ads-race' and in Holland the 'creationist flyer' that was send to millions of people caused an organized counterattack of a collaboration of civil organizations. What used to be a philosophical or political debate on a particular issue between two sides, is now a public discussion of which the ideological and social dimensions are unclear. At present, the "war over the meaning of everything" (Slack, G., 2008) is not debated within the philosophical or political arena, but fought over the internet between millions of individuals from behind their own computer. Each month, more than 100.000 messages are posted on Google Groups with the term "creationism" (Google Groups, 2012).

This research aims to give an insight into the ideological dimension, the social dimension, the relation between ideas and identity, and the role of social identity in the online creation-evolution controversy since 2007, by an integral framing-analysis on Google Groups.

## Report Structure

We start by sketching out the public context of this research in *Background.* Herein, the creation-evolution controversy will be clarified as a social conflict, as well as a philosophical dilemma. In *State of the Art* we describe the theoretical context of this research and outline the results of extant studies. The current state of the controversy on internet together with the state of research in this field led the formulation of our *Problem Statement*, indicating what, why and from whose perspective this particular situation is problematic. In *Research Objectives* we delineate four aims of this research. In *Research Questions,* the general research question pinpoints our focus, and the sub research questions indicate the order of investigating and strategy to pursue. The *Research Design* shows the logic behind the research's structure through clarifying how the evidence obtained by the empirical inquiry enables us to answer the research question as unambiguously as possible. In *Methodology* we describe the rationale and the philosophical assumptions that underlie this study. Our *Conceptual Framework* fits the definition of Shields and Tajalli as; "a type of intermediate theory that has the potential to connect to all aspects of inquiry (e.g., problem definition, methodology, and data collection)" (Shields and Tajalli, 2006). It acts like a map that gives coherence to the empirical inquiry. Rather than giving a clear-cut definition and underline the boundaries of each concept or theory, we will connect them comprehensively in a theoretical exploration in which this research grounds. Finally, in *Methods* we define the database of Google Groups used for this research and the basic techniques used to conduct the framing-analysis. However, because each research question has an own method that crystalized in the cyclical process of empiricism and conceptualization (induction/deduction), an outline of the exact line of methods is presented together with the results per sub research question.

This thesis consists of two parts. Part one, which includes chapter 1, 2, and 3, presents the *Integral Methodological Framework* and answers the first three research questions. Part two, which includes chapter 4, 5, and 6, presents the actual *Framing-Analysis* and answers the last three research questions.

The first part is the result of developing a theoretical and methodological framework for the framing-analysis of the creation-evolution controversy. It provides a new conceptualization of framing and of the creation-evolution controversy, which contributes to a scientific understanding of the theory and of the topic respectively. It is presented apart from the actual framing-analysis in part 2 so it can read independently.

The second part presents the methods and results of the actual framing-analysis, which is composed of an issue-framing analysis, an identity-framing analysis and a situational framing analysis on online creation-evolution discussions groups.

In *Results* we provide an overview of the results of part 2 in line with the structure of the research design, differentiating results of the 1) issue-framing analysis, 2) identity-framing analysis, and 3) the situational framing analysis.

The *Conclusion* answers the 'Research Question' by addressing the 'Research Objectives', and thus differentiates conclusions on 1) The ideological dimension, 2) The social dimension, 3) The relation between ideas and identity, and 4) The role of social identity.

In *Discussion* we critically review the results and place it in a wider scientific context.

## *Background*

It was May 2007, Washington D.C., when the International Union of Biological Sciences had its 29th General Assembly and were discussing the special occasion that was coming up two years later (Shapin, 2010). In 2009, it would be Darwin's 200th birthday and the 150th anniversary of his work "On the Origin of Species". The group of biologists commonly agreed to celebrate this unique moment in history. To honour Darwin and put his theory in the spotlight they approved the resolution to set off the programme to declare the year 2009 as 'The Year of Darwin' - not knowing what their 'positive message' would set in motion.

Right after the declaration in May 2007, the online creation-evolution discussion groups boosted up. Messages on the "Atheism vs. Christianity Google Group" increased with almost 60 percent from 8120 in April, to 12928 in May (Google Groups, 2010). The Christian side immediately reacted with the claim that the commemoration of Darwin was an injustice form of propagation. Evolutionists counterattacked by pointing at the 'spread of fairy-tales' which held people 'childishly ignorant'. Because the truth of the origin of life was the matter of subject and the discussion perceived as a competition, the rivalry between evolutionism and creationism fired up and a divergent trend took root.

While the debate was previously between well-organized religions with a strong social cohesion against an undirected mingled mass of people who had no specific opposed antithesis, the latter mass quickly became organized in a more homogenous opposition against creationism with strong representatives for this specific discuss. Richard Dawkins for example, one of the most popular scientists of our time, quickly organized the atheist side. In July 2007, two months after the declaration of the commemoration in 2009, he started a true campaign to persuade Christians to become atheist (OUTcampaign, 2009). On public busses in England and the U.S.A. adverts were placed with the message 'There is probably no god, so stop worrying and enjoy your life'. The response from the Christians did not wait for long and soon it led into an 'ads-race', illustrating the public competition and divergent drift in the dispute. In the Netherlands too, an organized counterattack of a collaboration of civil organizations followed after the 'creationist flyer' was send to millions of people (Sargasso, 2009).

But what is the discussion actually all about? The controversy's social dimension seems to comprise two identity groups, but what about the ideas they support? What about the ideological dimension? And how do these 'ideas' and 'identities' relate?

In its purest form the creation-evolution controversy is a dispute about the origins of the earth, humanity, life, and the universe, between creationists who belief it was created by a deity, and evolutionists who belief in common descent and human evolution (Haught, J. 2010). Originally, evolutionism was considered the 'belief system' of biologists and some other scientists in physics, palaeontology and cosmology, while creationism in the West was mainly supported by Christians. However, the debate has long ago exceeded the field of science and theology. Because citizens are becoming increasingly autonomous and individualistic - and society more heterogeneous and pluralistic as a result - the discussion table now hosts not only Christians and biologists, but scientists from all fields, philosophers, teachers, politicians and many other citizens from different backgrounds ('laymen'), who all approach the debate from different angles and through different windows. The creation-evolution controversy is not just debated within the philosophical or political arena, but discussed between millions of individuals in the public sphere, particularly on internet discussion groups.

The main arguments used on the evolutionist side are the damage religion has cost in the past and the ignorance it creates by telling false stories, while people in favour of creationism repeatedly point at the easy acceptance of an unproven theory and the justification of adverse behaviour; 'the-survival-of-the-fittest-lifestyle'. The debate thus extends far beyond the origin of life and concerns educational systems (Genesis 1:1 or theory of evolution), health (abortion) and human rights (woman in combat, gay-marriage). Especially in America, creationism is not just a personal theological stance in a demarcated debate on a mental concept, but a social movement with a political agenda. The creation-evolution opposition is even seen as a basic drive of America's so called 'culture war', a metaphor used to show that America's political split is based on sets of conflicting cultural values. The heart of this becomes apparent in what is

dubbed as the 'culture war speech' of Republican commentator Pat Buchanan in 1992: *"There is a religious war going on in our country for the soul of America. It is a cultural war, as critical to the kind of nation we will one day be as was the Cold War itself… The agenda Clinton would impose on America — abortion on demand, a litmus test for the Supreme Court, homosexual rights, discrimination against religious schools, women in combat — is not the kind of change America wants. It is not the kind of change America needs. And it is not the kind of change we can tolerate in a nation that we call God's country"* (Buchanan, J. 1992).

Behind the plain creation-evolution dichotomy lies a complex debate which crosscuts from the daily to the sacred; from the individual to the society; and from the religious to the political, creating a broad space of tremendous tension. It's an intricate debate in which different viewpoints are taken (political, social, religious and various philosophical approaches) on different subjects (education, health, nation state, human rights, social security, history), dealing with different characteristics (morality, factually, validity, authority, identity). Enhanced by the digital revolution, the discussion has become very dynamic and malleable. This gives us the opportunity to analyse how participants shape the debate on online discussion groups by the frames they are using to understand and represent issues and identities. But before we analyse the issues and identities involved, we need to know why this discussion is in fact so deep and diverse.

To really understand the wider social and ideological context of this research we need to know why this discussion is so extensive and tense. The 'Origin's Debate' is not so much about choosing between God or Darwin. Nor is the quest on the origin of life about how living organisms started millennia ago. The Origin is about where we come from, who we are, how 'I' relate to 'you', and thus how 'we' should life together. It implies *why* life is. It implies *what* life is. It implies who *you* are. And it implies how one *ought* to live. Gordy Slack (2007) rightly referred to the dispute as "the battle over the meaning of everything". It is one of humanity's longest, deepest, and broadest controversies that is at the root of many social conflicts; verbal and violent, religious and non-religious, in the past and at present.

Our ideas about life actually effect life itself. The origin of life, that is 'the origin of ourselves', fundamentally tells us who we are. And who we are, how we feel about our Selves, is the ground of our actions - our sense of Self determines how we interact with 'the world', or what we call 'Other'. It is rudimentary to our ideology and identity. This explains why the creation-evolution controversy carries on so boundlessly. And the answer is indeed important: From a more metaphysical stance, Oparin (the biochemist and pioneer researcher on the origin of life) wrote that "one can only understand the essence of things when one knows their origin and development", reflecting the earlier views of Heraclitus of Ephesus, and Aristotle (Schopf, 2001). The origin of life tells us how the world works. Although not everybody thinks or talks about 'how the world works', we all have basic assumptions about this at the core of our thinking and language structures. And these least questioned assumptions are often the most questionable.

Recapitulated, the discussion on the origin of life is not archaic, but very current; it is not merely a metaphysical matter, but something that involves every aspect of daily life; our notion on the origin of life is at the heart of all our thinking and talking, and; the two dispersed ideas about the origin of life are at heart of many conflicts, verbal and violent, religious and non-religious.

## *State of the Art*

To get an insight of what already is known regarding our research topic (the creation-evolution controversy) and research approach (framing-analysis), a preliminary literature review has been carried out. This first inventory helped in constructing a research design that is both socially as well as scientifically relevant.

A cross-database meta-search was launched to detect relevant scientific studies. The key term that captured studies on the topic was "creationis*" ('*' is truncation). Key concepts of interest for our scientific approach were 'framing', 'rhetoric', 'discourse', 'identity', 'conflict' and 'group dynamics', for which several search terms were employed. Without going excessively into the results of extant research at this stage, an overview of our research area is here presented. General scientific theories (not case-specific) will be elaborated on in 'Conceptual Framework'.

A lot has been written on the creation-evolution controversy in books and public media, but surprisingly little scientific studies have been conducted on this topic. Within the scientific arena, the creation-evolution controversy has been most widely discussed within the humanities, especially from historical[1] and philosophical[2] perspectives. Very few studies have analysed the controversy empirically by means of quantitative methods.

In communication sciences the controversy has gained special attention from rhetorical studies[3] in which frames are analysed as the intentional packaging of an element of rhetoric that represents reality in a particular way. This approach aims to elucidate the interest, power and strategies of parties (mainly of the creationist-side) and is commonly accompanied by concepts of discourse studies for its broader societal meaning[4]. The investigated transcripts for rhetorical studies mainly stem from media sources (rather than from public debate). From argumentation sciences, one study is done on the controversy[5], focusing on the discussion as a strategic interactional process. There is no study on the creation-evolution discussion that investigates 'frames' as cognitive devices to interpret and understand the issue (i.e.: as 'mental models' or 'schema'). When the subjective dimension of the discussion is studied (how people *understand* the issue, rather than *represent* the issue), this is generally done from an epistemological approach. Alas, these studies have a very distinct approach and terminology, and fail to make a connection with other studies and the body of scientific knowledge in general.

Not much research is done on group dynamics (group conflict, groupthink) and social identity in this specific debate. Some case-studies related to the controversy briefly touch upon these concepts[6], but no significant conclusion has been drawn in this field of research.

In summary, there is little scientific knowledge on the creation-evolution discussion. Many studies focus on rhetoric, but these studies take language to be a deliberate construct and only investigate solitary texts. The studies that focus on subjective realities (how people understand the issue) do not investigate public discussions either, and they generally have a philosophical approach that lacks a conceptual framework to connect it with scientific knowledge. Most remarkably, there is no significant research on group dynamics and social identity.

To understand the controversy as a whole, the relation between identity, social context, and frames (both as passive interior cognitive devices and exterior intentional co-constructions) needs to be grasped. However, no research has been done on the interface of these concepts. It thus remains unclear whether

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[1] Scott, E. (2009), Larson, E. (2003), Moore, J. (2002), Young, C. and Largent (2007) Ruse, M. (2008), Settelmaier, E. (2010)

[2] Manson, E. (2005), Roughgarden, J. (2006), Dembski, W and Ruse, M. (2004), Dixon, T. (2008), Gordon, R. and Seckbach, J. (2009), Sober, E (1999), Gregersen, N (2003)

[3] Smyczek, J. (2008), Morrison, D (2005)

[4] Shortell, T (2009)

[5] Laureij, L. (2007)

[6] Brem, S., Ranney, M., and Schindel, J (2002), Nisbet, C (2008)

disputants do not *want* to meet (problem of identity or intention), *cannot* understand each other (problem of culture or translation), or *have* fundamentally incompatible worldviews (problem of epistemology). Most significantly, the relation between 'ideology' (the epistemological dimension) and 'identity' (the social dimension) of the conflict is unclear. As Rothman stresses, "the first step in an effective resolution of conflict is correctly identifying a conflict as an identity-conflict" (Rothman, J. 1997). It is thus essential to determine the role of social identity in this conflict. Moreover, the exact relation between particular 'ideas' and 'identities' needs to be understood – what ideas are strongly identified with, what ideas polarize groups and what ideas do groups share? The answers to such questions serve as a guiding principle in the resolution of identity-conflicts, "which are a unique class of conflicts that require special handling because, unlike interest-, goal-, or resource- conflicts, they are deeply-rooted in existential needs and values" (Rothman, J. 1997). Identity-based conflicts present a fundamental challenge to a more peaceful world order (Gurr, 2000). Of the 27 conflicts in 1996 classified as "major armed conflicts" (more than 1,000 dead per year), 22 had a clear identity component to them (SIPRI, 1997), of which most were of a religious nature. The characteristics of the creation-evolution controversy - its range, its depth, its diversity, its malleability, its history, its identities, its implications - make it an apt case that can contribute to our theoretical understanding of social identity, group dynamics and communication in conflicts.

This case-study aims to enhance the understanding of the online creation-evolution discussion through an integral approach in which 'framing' is used as the theoretical and methodological bedrock. We will conduct an issue-framing analysis and identity-framing analysis to shine light on the ideological and social dimension of the discussion, of which a convergence of results explains the case's dynamics (what ideas are strongly related to identity?). A situational framing analysis will eventually determine the role of social identity. This combination of framing-analyses is a new methodology for understanding the relation between ideas and identities in intractable conflicts and to determine the role of social identity in general.
Hence, although this exploratory case-study focusses on a holistic understanding of the online creation-evolution controversy, it contributes to the general scientific understanding for its innovative methodological and theoretical approach. Because this study is not based on an established conceptual-theoretical framework and does not apply a standard methodology, we pay particular attention to the 'Methodology', 'Conceptual Framework' and part 1; 'Integral Methodological Framework'. This provides a new understanding of 'framing' that is useful for other trans-disciplinary research, particularly in communication science.

### *Online Research*

Despite the enormous rise of social media and computer mediated communication (CMC), very little research is done on the content of such media. No studies have used the texts on Google Discussion Groups as empirical source.
However, the internet is an exciting research laboratory for studying interaction. In line with the view of the Communication Science chair group of Wageningen UR, internet is not 'virtual reality' but has become a huge part of people's real life. "While many pose questions like 'what does internet do to people' we are more interested in turning this around into 'what do people do with internet'" (COM, 2009). This research interprets the online discussion not as something 'virtual', and thus 'unreal', but as a growing discursive space that is becoming increasingly influential to the public discourse in general. This case study contributes to the understanding of communication on internet and the development of new research methods in this area.
The online creation-evolution discussion is obviously different from the creation-evolution controversy in general. This requires us to examine how computer-mediated-communication (CMC) is different from face-to-face communication (FTF). Most significantly, CMC fosters anonymity, but this can both increase and decrease social polarization, depending on the case. Based on established theories on FTF and CMC relations, we will explore how this case in particular is hypothetically affected by CMC. Since this is not an empirical question that is part of our research it will be dealt with in 'Discussion'.

## *Problem Statement*

In Background and State of the Art, the social and scientific context is delineated. This indicates the general relevance of this research, but also calls for a particular research design. The Problem Statement specifies the starting point of this study and serves as a guiding principle for the Research Design.

At present, the creation-evolution controversy is fought over the internet between millions of individuals from behind their own computer. What used to be a philosophical or political debate on a particular issue between two sides, is now a public discussion of which the ideological and social dimensions are unclear. Particularly, the relation between 'ideas' (the ideological dimension) and 'identity' (the social dimension) is unknown. If the role of social identity and its relation with the ideological dimension remains unclear, the controversy cannot be resolved (or even uncovered) and can continue to inflict many other conflicts.

These social and scientific quandaries are summarized by the following problem statement:

*"The creation-evolution controversy has exacerbated into an online public dispute, of which the epistemological and social dimension are unclear, and the relation between particular ideas and identities are unknown"*

## *Research Objectives*

Considering the current state of the controversy on internet together with the state of research in this field, this research is aimed at clarifying:

- The ideological dimension
- The social dimension
- The relation between ideas and identity
- The role of social identity

This research contributes to a scientific understanding of identity, ideology and group dynamics in conflict studies, and to an understanding of the online creation-evolution controversy in particular.

## *Research Questions*

This part shows how the research objectives can be obtained through answering a set of research questions that signify the structure of this study. The 'General Research Question' indicates our general methodology and objective. The 'Sub Research Questions' give an indication of the order of investigating and the strategy to pursue.

### *General Research Question:*

What frames are used on online creation-evolution discussion groups and what does this tell about the ideological and the social dimension of the dispute?

### *Sub Research Questions:*

**1.** What stances, viewpoints, topics, arguments, and foundational beliefs play a role in the creation-evolution controversy?

**2.** How can we make sense of these different perceptions of disputants and integrate opposing metaphysical world-views in a clear and neutral framework?

**3.** How do these different world-views -different perspectives on the issue or identity-, transpire in language?

**4.** How do disputants of online discussion groups describe the issue at stake and what ideological-categories can be deduced from this?

**5.** How do disputants of online discussion groups describe themselves, the group to which they belong and others, and what identity-groups derive from this?

**6.** What frames do 'productive authors' of online discussion groups use in diverse social contexts?

## *Research Design*

In this part the logic behind the research's structure will be explained through clarifying how the evidence obtained in each phase enables us to answer the research questions.

The six research questions each have a corresponding chapter. Research question 1, 2 and 3 are dealt with in the first three chapters and will lead to an integral methodological framework (Part 1). Research question 4, 5 and 6 are dealt with in the last three chapters and guide the actual framing-analysis on online discussions (Part 2).

The 'Integral Methodological Framework' of part 1 is not presented as the 'Conceptual Framework' because it is the result of the actual research process (it answers the first three research questions) and provides a new approach to the topic (the creation-evolution controversy) and the theory (framing) that is of interest to a broad field of science.
The second part is comprised of an issue-framing analysis (chapter 4) focussing on the ideological dimension, an identity-framing analysis (chapter 5) focussing on the social dimension, and a situational framing-analysis (chapter 6) focussing on the role of social identity. The convergence of these analyses will ultimately enhance our understanding of the ideological dimension, the social dimension, the relation between particular ideas and identity, and the role of social identity.

The general research question and the research objectives indicate that the research is primarily focussed on part 2. Hence, in this report, the 'Results' and 'Conclusion' only reflect part 2. In 'Results' we present the findings of the issue-framing analysis (chapter 4), identity-framing analysis (chapter 5), and the situational framing analysis (chapter 6). In 'Conclusion' we answer the general research question by addressing the four research objectives, and thus draw conclusions on 1) the ideological dimension, 2) the social dimension, 3) the relation between ideas and identity, and 4) the role of social identity.

### *Part 1: Integral Methodological Framework*

Before we can tell anything about the frames that disputants use to understand and represent the world, we must explain the framework that we use ourselves to understand and represent the frames of disputants. A theoretical-methodological framework is needed because 1) framing-analysis is an ambiguous method and 2) the creation-evolution controversy is an abstruse discussion. To conduct a framing-analysis that is apposite to analyse this online discussion we need a trans-metaphysical model that connects the topic with the talk, the conceptual level with the empirical level, and the methodology to produce results, with the theory to analyze these results. The integral methodological framework results in a new conceptualization of framing and of the creation-evolution controversy that contributes to the scientific understanding of the theory and of the topic respectively. Although part 1 serves the actual framing-analysis, it comprises a new trans-disciplinary approach that is of interest to a broad field of science, and is therefore presented apart from the actual framing-analysis in part 2, allowing for it to be read independently.

*Chapter 1*. As described in the introduction, the online discussion is a multilateral and malleable discursive field, which crosscuts various matters from different angels with different viewpoints. There are thus several ways to differentiate the debate and to make sense of the writings on internet discussion groups. The discussion can be categorized into different standpoints, into different forms of argumentation, into different ways of reasoning, into different foundational beliefs, etc. An outline of these epistemological categorizations, from concrete standpoints to more fundamental philosophical differentiations, connects our study to traditional conceptualizations and provides a comprehensive understanding of the discussion on various levels of abstraction.

*Chapter 2*. To be able to integrate the various epistemological differentiations from step 1, we use integral theory (Wilber, K). Integral theory holds that a particular perception stems from a particular perspective.

The integral framework maps these (trans-metaphysical) perspectives and thus allows for an accommodation of the diverse 'understanding of the world' (epistemologically) and 'meaning of words' (semantically). By explaining the various meanings of 'science' and 'religion' from the integral framework, we inherently accommodate the various understandings of the world (world-views). This elucidates the epistemic-semantic 'fits' and 'misfits' of the creation-evolution controversy.

*Chapter 3*. This last step of the integral methodological framework shows how language is a system build of perspectives, and thus how (the syntax of) language can reveal someone's world-view. We define framing as perspective-taking, and show how perspective-taking is inherent in every linguistic expression. Hence, we interpret both the disputant's interior world-view (in chapter 2) and the disputant's exterior talk (in chapter 3) in terms of trans-metaphysical perspectives, allowing us to connect the too (see figure 1). We distinguish perspectives on issues (issue-frames) and perspectives on people (identity-frames) to examine the discussion's ideological and social dimension.

Chapter 2 approaches the discussion semantically (meaning of words), theoretically and interpretively, mainly for data-analysis (a theoretical framework for interpreting world-views). Chapter 3 approaches the discussion syntactically (meaning of structure), methodologically and positively, mainly for data-collection (a methodological framework).
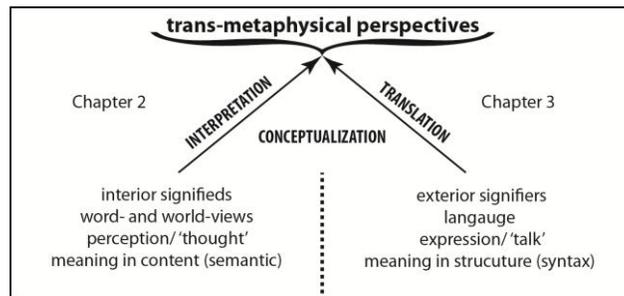


Fig I. 'Integral Methodological Framework' (Part 1)

However, the theory and methodology are neatly intertwined and together make up the 'Integral Methodological Framework' that is used for the framing analysis as a whole, which is a cyclical process of inductive and deductive reasoning. Figure I shows that chapter 2 defines world-views in terms of trans-metaphysical perspectives and chapter 3 defines language in terms of trans-metaphysical perspectives. Figure II shows that the framing-analysis is a cyclical process of both inductive and deductive reasoning, using both interpretation and translation (interpretivism/positivism), in which theory and methodology are intertwined. In this paragraph we make clear the logic of each chapter in the research design as a whole, in the 'Conceptual Framework' we further elaborate on the theoretical underpinnings of this design (under 'Framing: a new definition', we explain the processes of observation, translation, interpretation, and conceptualization of the framing-analysis.
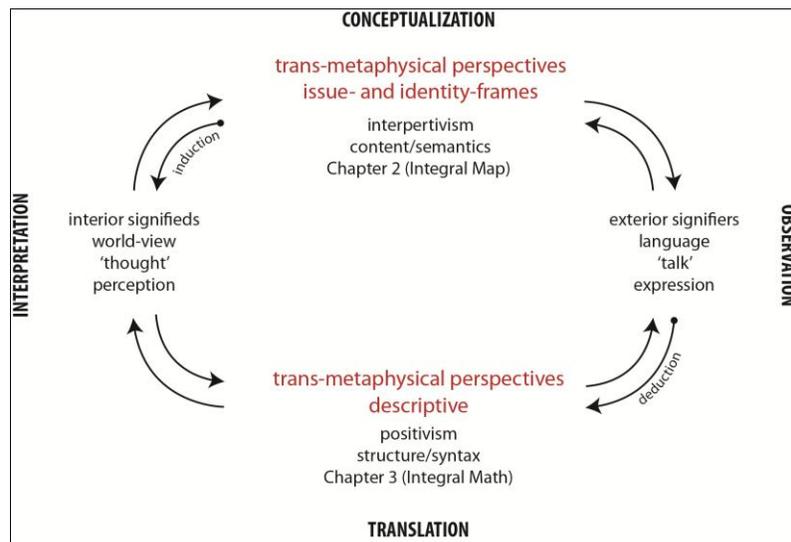
Fig II. The use of the Integral Methodological Framework (Part1) for the
Framing-Analysis (Part2)

*Part 2: Framing-analysis*

Research question 4, 5 and 6 are dealt with in the last three chapters and guide the actual framing-analysis on online discussions (part 2). The convergence of the issue-framing analysis (chapter 4), identity-framing analysis (chapter 5), and the situational framing-analysis (chapter 6) will ultimately enhance our understanding of the ideological dimension, the social dimension, the relation between particular ideas and identity, and the role of social identity.

*Chapter 4*. In this chapter, we first identify the various ways disputants discuss 'what's at issue', resulting in a list of issue-frames. Second, based on the correlation of issue-frames on Google Groups we identify ideological-categories: groups of disputants that seem to have a coherence in issue-frames. An ideological-category is a combination of strongly correlated issue-frames and positions that represents a group of disputants with a common ideology. The Integral Methodological Framework is used to analyze how the ideological-categories relate.

*Chapter 5*. The identity-framing analysis of this chapter focusses on the social dimension of the discussion. Ideological-categories deduced from the issue-framing analysis in step 4 do not designate how participants think of identity-groups themselves. An identity-framing analysis will be carried out to understand what frames participants use to identify themselves and others, and thus through what frames group formation takes shape. Although people's sense of identity influences how they frame the issue, a comparison between issue-frames and identity-frames and between ideological-categories and identity-groups can expose discrepancies between how disputants think of the issue and how disputants think of distinct identity-groups in the debate, potentially revealing forms of group-bias.

*Chapter 6*. Identity is not a static characteristic of a person, but a dynamic system that is largely determined by the social context. To further understand the role of identity, we investigate what frames productive authors from the identity-groups use in an intra-group discussion and an inter-group discussion. This logic is based on the assumption that a change of social context stands for a change in social identity. We hold that an identity-conflict, is a conflict in which framing is determined by identity. This

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means that *if* the use of issue-frames and identity-frames *corresponds* to two conflicting social-groups and is *dependent* on in-group and out-group discussions of these groups, *than* the conflict is identity-based.

As pointed out, the convergence of results will inform us about 1) the ideological dimension, 2) the social dimension, 3) the relation between particular ideas and identity, and 4) the role of social identity. In order to draw conclusions from the results of the issue-, identity-, and situational-framing analysis, we will compare:

- Issue-frames with ideological-categories (chapter 4)
- Issue-frames with identity-frames (chapter 4 - 5)
- Ideological-categories with identity-groups (chapter 4 - 5)
- Identity-frames of the identity-groups (5)
- Issue-frames and identity-frames in intragroup and intergroup discussions (6)

The 'Results' correspond to the 'Research Design' and thus differentiates findings of the issue-framing analysis, the identity-framing analysis, and the situational framing analysis. The 'Conclusion' answers only the 'General Research Question' by addressing the 'Research Objectives', and thus differentiates conclusions on 1) The ideological dimension, 2) The social dimension, 3) The relation between ideas and identity, and 4) The role of social identity.

## *Methodology*

In this part we explain the rationale of the research design and the philosophical underpinnings of this research in general.

### *Exploratory Case-Study*

This exploratory research aims to provide an insight into the creation-evolution controversy on online discussions. In social science, exploratory research is also referred to as 'interpretive research' because the goal is to understand 'what is going on' by investigating social phenomena without explicit expectations (Schutt, R. 2006). We thus attempt to unearth a theory from the writings on online discussion groups, rather than from a predisposed hypothesis. The principles for this type of research can be found in grounded theory which sees the research practice of data sampling, data analysis and theory development not as distinct and disjunct, but as different steps to be repeated until one can describe and explain the phenomenon that is to be researched (Glaser and Strauss, 1967). In this research, we actually use the phenomenon or 'case' (online creation-evolution discussions) to develop a theoretical and methodological framework (part 1), which is then used both for conducting the framing-analysis (data-collection) as well as for analysing its results (data-analysis). The framing-analysis is mainly qualitative, based on smaller but focused information-based samples rather than on large random samples. So instead of coding data sets and following a rigid protocol to examine a limited number of variables, we conduct an in-depth, longitudinal examination of a single case; the creation-evolution discussions on Google Discussion Groups. Although the case-study produces idiographic ('holistic', or 'context-specific') explanations that are typically not generalizable to larger or different populations, the results can provide an insight into the creation-evolution controversy at large and into the dynamics of intractable conflicts in general (the ideology-identity relation). The innovative theoretical and methodological framework for framing-analysis can be applied to other interdisciplinary (case-) studies and is thus of interest to a broad field of science.

Because the research design crystalized through a number of logical steps that comprised an empirical and theoretical exploration, we explain the methodology (the rationale of the research design) in the same line of thought: as a journey that starts with a basic question, leading towards an increasingly concrete research design.

### *Integral and Idiographic*

The writings on online creation-evolution discussion groups initially evoked a simple question: Why are they saying what they say? Or more specifically: What drives this discussion? In an attempt to answer this question, several conceptual distinctions came to mind, leading to more specific 'either/or-questions': Are the writings on online discussion groups best understood as a representation of thoughts, or as intentional co-constructions of a social reality? Is the discussion about different ideologies, or do disputants only care about their identity? Do disputants not *want* to come to an understanding (problem of identity or intention), *can* disputants not *understand each other* (problem of culture or translation), or *have* disputants fundamentally incompatible *world-views* (problem of epistemology or phenomenology)? In other words, is the online creation-evolution controversy best understood in its objective dimension, in its intersubjective dimension or in its subjective dimension? And in consequence; is the conflict best explained through a conversation-analysis focussing on language as a negotiation device, through a semantic-analysis focussing on the diverse meaning of words to diverse groups of people, or through a syntactic-analysis focussing on how the structure of language signifies singular subjective phenomenological worlds? Should we take the singular individual, or a collective group of people as the unit of analysis? And do we draw conclusions about the interior dimension (consciousness or culture), or the exterior dimension (behaviour or social interaction)?

Most research starts by answering these 'either/or-questions' prior to the empirical inquiry, and thus already operates within a particular scientific discipline, examines a particular domain, conducts a particular methodology, and defines particular factors, to 'explain' the case under study. Such an account can provide an insight into a particular domain of the case, or into particular factors, but is ultimately flawed in providing a comprehensive understanding of the case as a real-life - and thus 'multidimensional' or 'holistic' - phenomenon. For example, to interpret the written texts only as a reflection of thoughts and

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study the controversy's interior domain will probably produce (socio-)psychological theories that are consistent with what is observed, but will certainly not explain the case itself - it does not fully explain 'what the discussion drives'. Reality is not either interior or exterior, or either individual or social, but multidimensional, and so to understand the case holistically we should not work within one domain or try to find an ultimate cause. This means that the research design must focus on idiographic explanations that provide a comprehensive understanding of the case as a whole, rather than on nomothetic explanations that focus on presupposed 'factors' and possible causal relations. We will analyse the case not as an event or outcome effected by empirically distinguishable factors, but as a phenomenon with various features that can be distinguished conceptually. Our aim is to provide significant perspectives that enlighten significant dimensions of the online creation-evolution controversy, of which a convergence of perspectives explains the case's actual dynamics. To be precise; we conduct an issue-framing analysis and identity-framing analysis to shine light on the ideological and social dimension of the discussion, of which a convergence of results explains the case's dynamics (relation between ideas and identity). Although we differentiate the ideological and social dimension by an issue- and identity-framing analysis, ideology and identity are not seen as two separate causally related phenomena. This clarifies why we study various features of a holistic phenomenon instead of causal relations of separate factors, but why then use the concept of 'framing', and why study the social and ideological dimension in particular?

*Framing*
Since the aim of this exploratory case-study is to understand the online creation-evolution controversy in its real-life context, we only have the written language on online discussion groups as a unit of observation. The particular interpretation of language (the unit of observation) effects the particular interpretation of the case (the unit of analysis) and vice versa. For example, if language is understood to reflect individual thoughts rather than a device to construct social meaning, than the case is understood in cognitive terms rather than in terms of social interaction. And so to understand the unit of analysis (the online creation-evolution controversy) holistically, the unit of observation (written language) needs to be understood holistically.
After a theoretical exploration we found that language cannot be divided into empirically discrete units of observation that each indicates a particular feature, factor or dimension. This will be elaborated in the 'Conceptual Framework', but in short; language always already presents itself 'as one'. In every sentence a *speaker* tries to come to an understanding *with another person* about *something*, and so in using language we automatically confluence our interior subjective 'I-world', the intersubjective 'we-world' of shared meanings, and the exterior objective 'it-world'. Because we cannot separate linguistic units of observation, we need to interpret language as a holistic unit and instead divide the case into *different conceptual* dimensions that are understood through different perspectives on (or 'methodologies of') the *same unit of observation*.
The concept of 'framing' is used because it 1) allows language to be studied as a holistic phenomenon, and 2) allows for a conceptual distinction (ideas/identity) that is significant to understand this case's dynamics. 'Frames' are the windows or filters through which we understand *and* represent the world. The concept is used both in psychology as well as sociology (particularly in interdisciplinary fields and applied sciences) in which the meaning of 'frames' ranges from static individual cognitive schemata to intentional co-constructions in social interaction. In reality however, 'framing', occurs both in thinking and talking, and thus within the individual and between individuals. Our conceptualization of framing (elaborated in 'Conceptual Framework') avoids *pre factum* predilection: it avoids explaining the case in terms of either interpretation or representation, either interior push or exterior pull motivations, either individual or social phenomena, or either cognitive or behavioural reasons, simply as a result of an *a priori* conceptualization. At the same time, framing allows for a conceptual distinction that is significant to study this discussion as an 'intractable conflict': through an 'issue-framing analysis' and 'identity-framing analysis' we conceptualize and compare 'ideas' and 'identity', or the ideological dimension and the social dimension, respectively. The issue-framing analysis and identity-framing analysis do not look at different 'parts' of language (do not use different units of observation), but look at language as a whole with a different eye. Moreover, the 'ideological dimension' of the case does not stand for the interior individual domain of reality and the 'social dimension' of the case does not stand for the exterior social domain of reality, because both ideology and identity are holistic phenomena. Recapped, framing *avoids* a partial interpretation of language, but *allows* for a conceptual distinction that is significant to understand the case.

Although we do not consider the linguistic expression to represent the interlocutor's knowledge or mental schema as a static cognitive device, we do consider the observable writings on Google Groups to resemble the disputant's interior thinking. Thinking and talking manifest in the interior and exterior dimension respectively, but we should realize that both in our thinking and talking we bring together our subjective reality, the social reality and the exterior reality to make sense of the world. Methodologically, we 1) *observe* language (exterior), 2) *interpret* linguistic action as being inherently *indicative* of the expression of "I", representation of "It" and appeal to "you", and 3) hold that the linguistic expression *represents* what the interlocutor thinks; not just as an expression of his/her interiority ('I'), but as an action that involves bringing together the three dimensions of reality. Hence, exterior talk *represents* interior thought, but it necessitates an *interpretation* of the linguistic expression (guided by the integral methodological framework), to say something about the ideological and social dimension. We thus do not apply a positivistic method in which a sentence directly stands for the author's cognitive structure, but *interpret* the linguistic expression to identify issue-frames and identity-frames that indicate perspectives on the issue and identity respectively.

*Ideas and Identity*
To understand the conflict, we need to understand the conflict's dynamics (i.e. what drives the conflict?). Most intractable conflicts, such as the creation-evolution controversy, involve deep-rooted human needs and are concerned with identity, values and beliefs. Other than interest-based conflicts in which the drive of a conflict is relatively clear, intractable conflict are often identity-based in which the drive of the conflict remains on the background. To understand such conflicts, the role of -and the relation between- identity and ideology needs to be determined. As Rothman (1997) points out, it should first be examined whether a conflict is identity-based, as such conflicts require a different approach for resolution. More specifically, to get an insight into the online creation-evolution controversy we have to know the role of identity, and the particular ideas that disputants identify with. We thus examine the ideas and identities that are involved and how particular ideas are related to identity. Some ideas might be strongly identified with by particular groups, other ideas might be shared among distinct groups. An insight into these relations will show the main skirmish of the conflict (ideas identified with) and possible bridges in conflict resolution (shared ideas). Although framing-studies mostly conduct either an issue-framing analysis or identity-framing analysis, the particular convergence of these methods can enlighten the dynamics of a conflict. Because this 'integral framing analysis' comprises a new theoretical and methodological framework that could be of value for other framing-analyses and conflict–studies, we invite readers to critically review this methodology's internal and external validity.

We hold that an identity-conflict, is a conflict in which framing is determined by identity. This means that "if the use of issue-frames and identity-frames *corresponds* to two conflicting social-groups and is *dependent* on in-group and out-group discussions of these groups, than the conflict is identity-based"

## *Conceptual Framework*

In this research, various concepts and theories will be used that require some elaboration. Instead of giving a clear-cut definition and emphasizing the boundaries of each concept and theory, we will connect them comprehensively in the conceptual framework in which this research finds ground. This offers a space of profound understanding in which theories and concepts are interwoven and form the dynamic fabric underlying this research. Our conceptual framework fits the definition of Shields and Tajalli as; "a type of intermediate theory that has the potential to connect to all aspects of inquiry (e.g., problem definition, methodology, and data collection)" (Shields and Tajalli, 2006). It acts like a map that gives coherence to the empirical inquiry. Rather than taking the concepts and theories as facts, and methods as strict protocols to which the context should adhere, we attempt to avoid a course of suppositions by putting the context first in an exploratory case-study. In fact, since the development of an integral methodological framework is part of the actual case-study (part 1), the conceptual framework here presented only provides a general overview of this research's theoretical context.

We start by explaining basic theoretical models and philosophical premises that underlie this study and then work towards increasingly concrete concepts and theories relevant to this particular case and applied in the empirical analysis. To provide some overview of the theories and concepts being used we ordered the conceptual framework with the following subheadings:

- Integral theory
- Symbolic interactionism (Self-Society)
- Communication, Language and Framing
- Framing, a new definition
- World-view and Framing
- Identity and Ideology
- Identity and Social Context

Concisely, this research has a *social constructionist* point of view in which *framing-analysis* is used to understand the role of *social identity* in *intractable conflicts. Social constructionism* lies epistemologically, conceptually and methodologically at the very heart of this research because we, 1) consider our knowledge and understanding of reality as constructed by social relationships and interactions 2) perceive ideology and identity as social constructs, and 3) use *language* as unit of observation because our realities are reflected in language and constructed through the use of it.

Integral Theory (Wilber, K. (1997) is used as the theoretical and methodological framework of this research. It is a trans-metaphysical theory that has turned into an emerging field of academic discourse focused on the complex interactions of ontology, epistemology and methodology.

In brief, integral theory holds that everything has an inside and an outside, and is a whole but also part of a larger whole. Hence, everything can be viewed: 1) in its interior and exterior dimension, and 2) as singular whole or plural parts. These make four (2x2) quadrants, which can be conceived of as *perspectives on reality* (subjective, inter-subjective, objective, and inter-objective) as well as *dimensions of reality* (interior individual, exterior individual, interior collective, exterior collective). See Figure III.
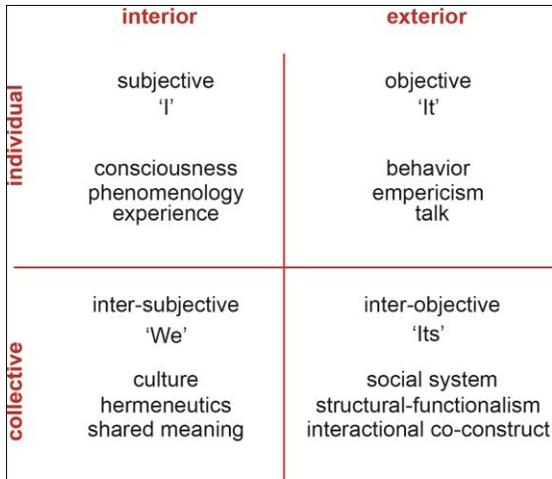


Fig III Quadrant model derived from Wilber (1997) with perspectives, dimensions, and concepts from communication science (Tim Stevens, 2011)
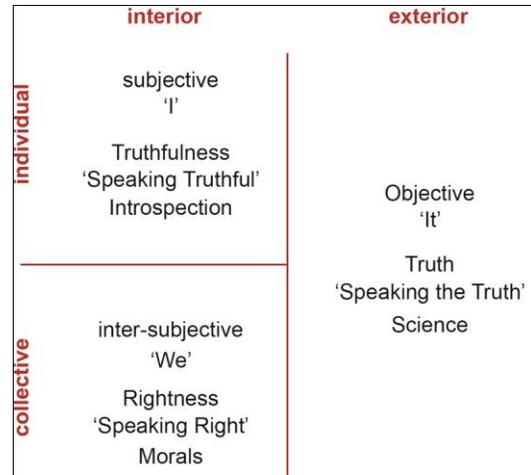
Fig IV 'The Big Three' model derived from Wilber (1997) with Habermas's three validity claims (Tim Stevens, 2011)

The dimensions of a human being are the interior individual (consciousness in the Upper-Left (UL)), the interior collective (culture in the Lower-Left (LL)), the exterior individual (behaviour in the Upper-Right (UR)) and the exterior collective (social in the Lower-Right (LR)). A person has a private experience (from a subjective perspective) but also shows observable behaviour (from an objective perspective). By interacting with each other, human beings share a culture (from an inter-subjective perspective), but also form social systems, such as political and economic systems on the outer (from an inter-objective perspective). Exteriors can be observed, interiors need to be interpreted.

As both of the Right-Hand quadrants (UR and LR) are characterized by objectivity, the four quadrants are also referred to as the three value spheres of subjectivity (UL), intersubjectivity (LL), and objectivity (UR and LR), as shown in Figure IV. These three domains of reality are discernible in all major languages through pronouns that represent first-, second-, and third-person perspectives (I, We, It)[7]. Notice right now how you are engaged in all three perspectives: first-person (e.g., noticing your own thoughts as you read this), second-person (e.g., reading my words, understanding the language and interpreting what I am trying to convey), and third-person (e.g., sitting there aware of the environment around you). These are, so to speak, three different worlds, which we can perceive and judge distinctly, but co-arise in our awareness. The irreducibility of these three spheres ('The Big Three' in integral theory) has been recognized throughout the history of Western philosophy, such as by; Plato's true, good, and beautiful;

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[7] Wilber turns the 2nd person 'you', into the intersubjective domain because if I am a 1st person speaker talking with 2nd person you, the clear implication is that you can understand me to some degree, and therefore each 'you' actually exists as part of a 'we', or else no communication would occur at all.

Kant's three critiques of pure reason, judgment, and practical reason; Habermas' validity claims of truth, rightness, and truthfulness, and; Popper's objective, cultural, and subjective world. For a more extensive description of integral theory, read "Introduction, Integral Theory in Action: Applied, Theoretical, and Constructive Perspectives on the AQAL Model" (Esbjörn-Hargens, S., 2010).

We use integral theory for its methodology ('integral methodological pluralism') and some of its epistemological implications (perceptions stem from perspectives), but do not accept ontological interpretations on the metaphysics of reality that cannot be derived from the model. For example, we acknowledge that a particular perspective can lead to a particular perception of 'spirit' (the subjective experience of I-am-ness or the subject that underlies all experience can be called 'spirit'), but we do not further go into the ontological reality of 'spirit' beyond this perception. The ontology of integral theory is by definition trans-metaphysical because it holds that the world is built of perspectives; not of mind, nor of matter; not of singular parts such as the self or the individual, nor of collective wholes, networks or systems such as society. Hence, integral theory is an empty framework or map for which we need certain conceptualizations and theories to 'fill in' the framework or to specify how we are going to use the map in this research. Symbolic interactionism will be used to make sense of the relations between the quadrants or The Big Three, and to interconnect some of the main concepts in this research; framing, identity, world-view, and perspective-taking.

## *Symbolic interactionism*

The trans-metaphysical overview that integral theory provides[8] is used in this research to study the case in a holistic way (i.e. as four-quadrant phenomenon) for finding idiographic explanations, and to avoid explaining ('reducing') the case in terms of either individual psychological phenomena or social interactional phenomena. This interdisciplinary research recognizes the irreducibility of the domains and is based on the premises of social constructivism, and more particularly symbolic interactionism, concerning the relation of these domains.

Symbolic interactionism holds that the world is understood (thought of) and represented (talked about) through the use of symbols that have subjective meaning. Both communication (in the intersubjective realm) and thinking (in the subjective realm) is contingent on a system of symbols, such as language, that signifies the world, but is very different from the objective exterior world. This is important because people act toward things based on the meaning those things have for them, and not directly to the objective world out there. Language and money, for example, are meaningless in the objective world but meaningful symbols in our (inter-)subjective world. Knowledge is subjective and private, but inherently socially constructed because it derives from and is maintained by social interactions: "when people interact, they do so with the understanding that their respective perceptions of reality are related, and as they act upon this understanding their common knowledge of reality becomes reinforced" (Berger. P, et al, 1966). Blumer (1969) captured these notions in an eminent summary of symbolic interactionism: "people act toward things based on the meaning those things have for them; and these meanings are derived from social interaction and modified through interpretation." Because human interaction and interpretation is mediated by the use of symbols and signification, Blumer held that the "most human and humanizing activity that people engage in is talking to each other" (Griffin, A., 2006, p60). Thinking ('minding behavior' in terms of symbolic interactionism) is simply seen as an internal conversation, and thus also contingent on symbols; principally language. Language is the source of meaning and is negotiated through the use of it. Through language we create and connect the three worlds; "a physical objective reality, a social reality, and a unique" (Griffin, A., 2012): The Big Three defined by symbolic interactionism.

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[8] The four irreducible perspectives of integral theory show that the social world or dimension ('society' if you will) cannot be fully explained in terms of the sum total of individuals, but neither can individuals be fully explained in terms of their role in the social structure. In addition, it shows that consciousness cannot be fully explained through the observation of material phenomena, but neither can the exterior world be explained through introspection or reduced to subjective phenomena. And so individuals do not make society (agency), but neither does society make individuals (structuralism). Both perspectives offer partial truths.

Concerning the relation between the individual and society and causality in general, symbolic interactionism holds that both individuals as well as society are created through making meaning, which takes place between and within actors. Cause unfolds in the present social interaction, present thinking, and present definition of the situation (Charon, J., 2004). Our past and our environment (society or 'the other') only enters into our actions because knowledge is socially constructed and is applied to the definition of the present situation. In fact, one can only understand one's self in relation to the other, and so the meaning of self and the other are interdependent. In the theory of the looking-glass self which grounds in the premises of symbolic interactionism, H. C. Cooley (1902) has summed this up in his statement: "I am not what I think I am and I am not what you think I am; I am what I think that you think I am" (McIntyre, L. 2006). The concept of 'self' in symbolic interactionism thus depicts the relationship between the individual and society (Meltzer, B. 1978), holding that the development of self is only possible through 'role-taking' (to look upon your self, you have to be able to take the role of another, which allows you to reflect upon your self). Role-taking is vital for understanding the self, but also for 'making meaning' in general, because it is the key mechanism that allows people to see another person's perspective in order to understand what an action might mean to another person. Role-taking is basically perspective-taking, and as we will see; language itself is a system built of perspectives (the three personal pronouns indicate the universal perspectives), The activity of perspective-taking is inherent in every linguistic expression, the exchange of which (i.e. 'communication') allows for mutual understanding; the construction of a particular social reality. In part 1 we will specify how the trans-metaphysical perspectives of integral theory; 1) make up communication and language, and 2) make up mental perceptions of the world (world-views), the self, and others (identity). This produces a new definition of framing, that goes with an entirely new theoretical and methodological framework.

## *Communication, Language and Framing*

Language allows us to talk about and create the world we know, and is thus a medium through which reality becomes constructed (we construct a reality by the use of language) as well as the product of it (language is a social construct). As summarized by Blumer: language is the source of meaning and is negotiated through the use of it. Language does not only reveal the process by which we construct reality, it is also the product of that construction process that becomes reality (Ford, 1999) – not only in the way we *talk*, but also in the way we *think* about the world (and consequently; *act* in the world). Basically, language is a system of perspectives that enact particular realities; in using language we cut reality into pieces (nouns) and determine their relation (subject/object). Language literally defines reality. Heidegger captured this notion wonderfully stating that "we do not say what we see, but rather the reverse, we see what one says about the matter" (Moran, D. 2000). Accordingly, this research defines 'framing' as the enactment of a particular perspective over others, in thinking or talking (understanding or representing), that discloses a particular reality and inherently leaves other possible realities closed. 'Frames' then, are defined as the devices used for understanding and representing the world, and we define these in terms of the basic universal (jointly exhaustive and mutually exclusive) perspectives of integral theory.

Before we elaborate on our own definition of framing, we will 1) show how the three irreducible worlds come together in communication or 'the use of language' (i.e.: 'formal pragmatics'), 2) show how 'the study of signs and sign processes' (i.e.: 'semiotics') covers four perspectives represented by integral theory, and 3) show that these perspectives have resulted in fragmented concepts of framing. We thus cover extant scientific knowledge on communication, language and framing, and then bring this together to provide a new integral definition of framing.

1) Formal pragmatics, a theory of language-use, started with the work of Bühler who developed a theory of language functions (Bolger, H., 1964). From the semiotic model we can see that the sign is a symbol in virtue of being correlated with objects and states of affairs, a symptom in virtue of its dependence on the sender, whose subjectivity it expresses, and a signal in virtue of its appeal to the hearer. Because a sign can be understood in three ways, every linguistic expression simultaneously functions as an expressive symptom of the sender, an appellative signal to the recipient, and a representative symbol of the world. It simply says that in every sentence a *speaker* tries to come to an understanding *with another person* about

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*something*, and so in using language we automatically confluence our interior subjective 'I-world', the intersubjective 'we-world' of shared meanings, and the exterior objective 'it-world'. Language is both the result of, and the medium in which, the individual and the social, and the internal and the external come together. As Habermas (1973) pointed out external nature, society, and internal nature always come into being together. Hence, language presents itself 'as one' and to see language only as a symbol, symptom or signal, is to study language as being representative for only a particular domain or facet (function) of communication which would be misleading and partial. Every sign, is always already a symptom of 'I', a signal to 'You', and a symbol of 'It' (see figure V).
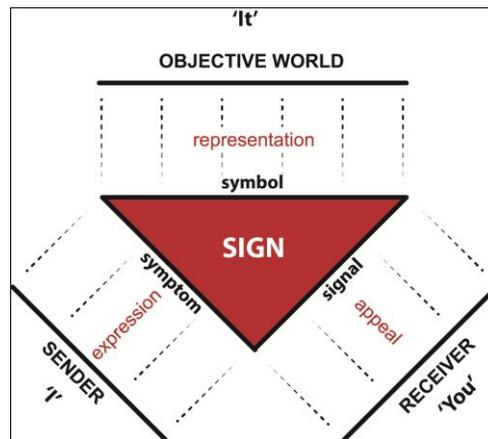


Fig V. The Organon Model based on Habermas'
Formal Pragmatics  (Tim Stevens, 2012)

2) The science that studies signs and sign processes is semiotics, which is subdivided into various disciplines that each selects a different unit of language and interprets it in a different way. At the core of semiotics, Saussure defined a sign as the combination of a mental concept (the signified) and a physical sound-image (the signifier) (Harris, R., 1987). A sign (signified + signifier) stands for an actual object, event, feeling, etc., known as the referent. The signifier is the written or spoken word. The signified is the internal psychological concept that comes to mind upon experiencing the signifier. A simple example would be the written word "ball" (the signifier), the concept that arises upon reading "ball" (the signified), and the actual ball on the tennis court referred to (the referent).

However, the meaning of a word depends on the context and so language cannot be understood by the sum of its parts. If you are a member of a soccer squad you will probably think of a football when you only hear the word "ball", i.e.: the meaning of words depends on the culture you've grown up in and are part of, referred to as the 'semantic domain'. However, if one hears the sentence "the ball fell over the net", it becomes clear that ball refers to a tennis ball, i.e.: the meaning of words depends on the (linguistic) context. And so the meaning of a sign (signifier + signified) depends on the socio-cultural context and linguistic context; semantics and syntax respectively. Semantics is the meaning of a collection of signs, a hermeneutical circle of shared language or culture. Syntax is the combination of units of language in its exterior dimension (such as grammar). As you probably have noticed, the signifier, signified, semantic and syntax exactly make up the four quadrants. This is illustrated in Figure VI. Semiotics tells us that language has no definite unit of observation; it should always be interpreted as having an inside and outside, and as part of a larger whole.
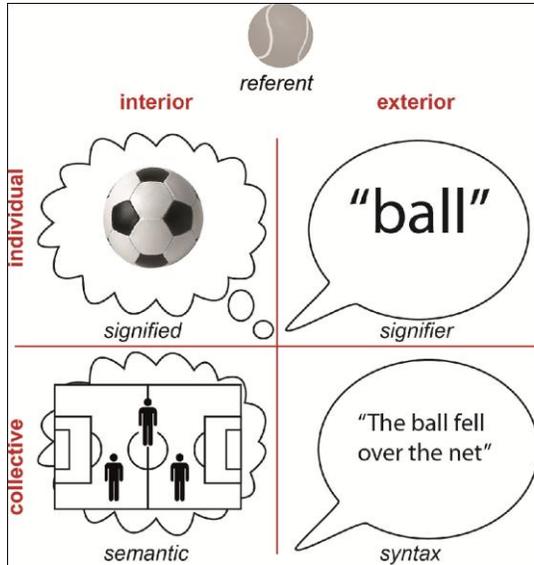
Fig.VI Quadrant model derived from Wilber (1997) with signifier, signified, semantics and syntax (Tim Stevens, 2012)



Fig.VII The four quadrants derived from Wilber (1997), each comprising; the interpretation of 'framing'; the possible understanding of a post, and; related scientific disciplines, theories and concepts (Tim Stevens, 2012)

3) Just as the 'unit of language' and the 'use of language' can be described in various ways, so there are various definitions of 'frames' and 'framing'. Whereas the field of pragmatics and semiotics have a long history in which sub-disciplines are clearly defined, framing is a relatively new concept used in studies from psychology to sociology (particularly in a range of interdisciplinary studies, e.g. communication, media studies) of which the conceptual, theoretical and methodological framework is often poorly defined. Entman called framing "a scattered conceptualization" and "a fractured paradigm" that "is often defined casually, with much left to an assumed tacit understanding of the reader" (Entman, R. 1993). The divergent theoretical approaches to framing have resulted in conceptual confusion in conflict research (Dewulf et al., 2009). The conceptual openness of framing is a curse in that findings, methodological insights and theoretical conclusions don't "add up". At the same time, the openness of the concept offers the opportunity for some of the most creative analyses, conceptual bridges and theoretical insights (Hertog and McLeod, 2001). We use the concept of framing in this spirit and develop a new integral theoretical and methodological framework for framing-analysis. This framework will be elaborated in part 1, but the scientific background and theoretical context is presented here.

A notion that supervenes in all definitions of framing is the *selectivity* of the process: framing includes particular things into the picture, and thereby inherently leaves out others. The concept of framing is thus aimed at enabling an insight into the *social construction of a particular reality*. However, this 'reality' is then defined differently by different studies; as being subjective (in our minds), intersubjective (shared reality), or objective reality (in the real world). Although most concepts implicitly hold that the process of selection is intentional, some definitions state that framing also comprises involuntary selection because frames become part of the internal and unconscious interpretative devices that precede perception. Most divergently, the concept of frames is applied to indicate either something 'behind the ears' or 'between the noses'. As indicated by Dewulf et al. (2009); "scholars either focus on frames as knowledge structures ('cognitive representations') or on how parties negotiate frame alignments in interactions ('interactional co-constructions')". To view a frame as a representation stored in memory is to study a frame in the individual interior dimension, which is common in psychology. To view a frame as an interactional co-construction is to study a frame in the collective exterior dimension, which is common in sociology. In addition, there is the difference between process oriented studies, analysing the exterior communication dynamics (often

called 'framing-analysis), and interpretative studies, analysing the interior meaning of the linguistic expression (often called 'frame-analysis'). *Framing-analysis* is considered the examination of the interactive co-construction of meaning, focussing on conversation dynamics, such as on frame-shifts ('reading between the lines'). In this method, the conversation as a whole is the unit of analysis. The main quest is to describe what is happening in the conversation. A *frame-analysis* on the other hand, is considered the examination of cognitive representations, typically focussing on individual psychological phenomena for which an experimental research design is often applied. Transcripts for this method generally do not stem from conversations, but from (phrases of) a monologue or dialogue. This interpretive method can also be used to understand social realities, shared meaning, or cultures but the concept of 'frames' is rarely used in such studies (e.g. hermeneutics, ethnolinguistics). In figure VII the four quadrants are displayed, each comprising; the concept of framing; the possible understanding of a post on Google Groups (a single message from a disputant), and; scientific disciplines, theories and concepts related to this domain.

Taken together: 1) Formal pragmatics tells us that *the use of language* has three functions: expression (of 'I'), appeal (to 'you'), and representation (of 'it'), and that language should not be interpreted as being representative for only one particular domain or a single facet of communication. 2) Semiotics tells us that language has *no definite unit of observation*; it should always be interpreted as having an inside and outside, and as part of a larger whole. 3) Framing is a concept that potentially integrates the various aspects of communication and language, but lacks a coherent theoretical-methodological framework.

*Framing, a new definition*

We can conclude that in reality we do not either select a frame from our memory that represents our mind, or deliberately think in advance how to shape social meaning in interaction. Rather, framing is the process of understanding and representing the world selectively, and thus occurs in both thinking and talking, within and between individuals. This is underwritten by symbolic interactionism, stating that we make sense of the world by the use of symbols in interaction and interpretation. The concept of framing thus needs to integrate the four dimensions of language, and of language-use. More specifically, a coherent concept of framing needs to 1) incorporate the commonality of the various concepts of framing and secure its main value in research, and 2) transcend the partial perspectives that lead to irrelevant discords and disciplinary confines. Accordingly, such a concept would 1) include the process of selection in the social construction of reality, but 2) hold that this 'selection' occurs both within and between individuals and that this 'reality' is apparent in the subjective, intersubjective and objective domain. This overcomes conjectural discords and enables framing to be used in interdisciplinary studies, such as in conflict research, which require applied methodologies suitable for finding holistic descriptions or ideographic explanations of a particular case.

Hence, we define framing trans-metaphysically in terms of perspectives. A frame is a perspective, and framing is perspective-taking. Perspective-taking happens in talking and thinking, in interaction and interpretation, exteriorly and interiorly. Perspectives are apparent in the exterior world in the form of language (language can be conceptualized as a system of perspectives, demonstrated in chapter 3), but also build the interior world (perspectives precede perceptions, and a world-view can be mapped by trans-metaphysical perspectives, demonstrated in chapter 2). Both in language and in our minds we have a range of perspectives to choose from to represent or understand the world, and the selection of a perspective is an act of framing.

First, in language, the enactment of a particular perspective is guided by grammar in which we select nouns (or personal pro-nouns) and define subject-object relations to form a sentence (for example, the personal pronoun "we" enacts a subjective first-person plural perspective). Language is a system build of perspectives and so nothing can be said without taking a perspective. The activity of perspective-taking is inherent in every linguistic expression, the exchange of which (i.e. 'communication') allows for mutual understanding (the construction of a particular social reality). In chapter 3, we use integral theory, and integral mathematics in particular, to show how language is a system of perspectives.

Second, in our minds, the enactment of a particular perspective leads to a particular perception of the world, a constructed reality. A world-view is not the passive perception of the world but the subject's active

(but largely unconscious) projection or 'enactment' of a particular perspective on the world. Without a perspective, there is no perception. Individuals, sub-cultures and society at large enact perspectives that give rise to particular perceptions (particular constructed realities), and so this concept can be used to make sense of interior individual cognitive schema, or to make sense of a shared social reality. In chapter 2, we use integral theory to show how world-views derive from perspectives, and how world-views can be interpreted and integrated with the integral map.

This conceptualization allows language to be studied as a social construct (product, a frame or a perspective) or as a medium to construct a particular social reality (process, framing, or 'perspective-taking'). Perspective-taking is not always intentional (because it is inherent to the use of language), but it is an *active* process within and between individuals (the *enactment* of perspectives). This allows for the concept of change (e.g. conflict resolution) realised through 'reframing'.

Perspective-taking happens temporarily in each thought or speech act such as in constructing a sentence (i.e. occasion or 'route'), but can become a structuralized 'schema' (i.e. pattern or 'infrastructure'). A framing-analysis examines the recurrence of perspectives in language, and indicates how these perspectives form structural schemata of interpretation and representation. Note that since frames are perspectives, and since perspectives are trans-metaphysical, frames do not represent interior schema *or* exterior linguistic constructions, but include both. In this conceptualization, a framing-analysis does not move from the exterior to the interior, but from the exterior (empirical level) to the trans-metaphysical (conceptual level). In accordance with this conceptualization, a framing-analysis uses language as the unit of *observation,* which directly *represents* particular perspectives (positivism/syntactic-analysis, e.g. a personal pronouns directly represents a particular perspective) and requires *interpretation* in order to understand the speaker's perspective (interpretivism/semantic-analysis, e.g. a word, such as, 'religion' can mean different things to different people) to arrive at a particular *conceptualization* (e.g. issue-frame, identity-frame) relevant for the particular study. This process of observation, translation ('representation'), interpretation and conceptualization is demonstrated in figure 2 of 'Research Design' (page 14).

Perspectives are defined in terms of integral theory. The integral framework integrates the jointly exhaustive and mutually exclusive interior/exterior and singular/plural perspectives, and thus maps all possible 'frames'. In fact, each grammatical person (1$^{st}$, 2$^{nd}$, or 3$^{rd}$ person) always already arises in a subjective *or* objective form, *plus* a singular *or* plural form, representing the jointly exhaustive and mutually exclusive perspectives (explicated in chapter 3). The all-inclusive framework makes clear not just what's inside the frame when a particular perspective is enacted, but also shows what's left out. This discards the dominant criticism on framing-analysis about the ambiguousness of the interpretive (inductive) process; it is often unclear how the researcher distinguishes frames, and how the researcher knows what's outside the frame, on the basis of what's inside the frame. Hence, trans-metaphysical perspectives allow for an *all-inclusive* and *neutral* definition and differentiation of frames.

This rudimentary and open conceptualization of framing allows each study to design a particular theoretical-methodological framework suitable for their own particular case in which the conceptual level and the empirical level are related. The particular theoretical-methodological framework for this framing-analysis will be elaborated in part 1.

*World-View and Framing*

Although thinking and talking manifest in the interior and exterior dimension respectively, we should realize that both in our thinking and talking we use perspectives to bring together The Big Three in order to make sense of the world. As described in the methodology, we do not consider the writings on Google Groups to directly represent the author's mental schema as a static cognitive device, but we do hold that the writings on Google Groups can be understood as perspectives which have an interior equivalent. We interpret language as a system of perspectives that resembles interior perspectives and examine the perspectives (frames) disputants use to make sense of the world. Perspectives lead to perceptions, and so a particular perspective leads to particular perception of the world. Accordingly, to provide a theoretical model for our framing-analysis, 'world-view' is simply defined as the perspective ('view') on the world ('world' in the most general sense). This world-view includes perspectives on the issue or 'things' (ideology) and perspectives on identity or 'people'.

It is often said that we think in language, and there are good reasons for this. Whorf, known for the principle of linguistic relativity, pointed out that "the world is presented in a kaleidoscope flux of impressions which has to be organized by our minds, and this means largely by the linguistic systems of our minds" (Whorf, 1956. p214). A sentence is not just an expression of what the speaker thinks about already solitary things in the world; a speaker cuts reality into pieces (nouns) and then expresses how these pieces are related (object/subject). Because we simply cannot comprehend or convey reality *all-in-once,* we split reality into pieces and define relations, both in our thinking and talking. As Whorf put it "we dissect nature along lines laid down by our native language" (Whorf, 1956. p212). The language forms a "conceptual grid", as defined by structural anthropologist Edmund Leach (1982), which we impose on the world in order to make sense. In this research, we do not hold that language determines the way we think (the strong version of linguistic relativity), nor that our mental processes determine the language that is created (the 'knowledge-first position'), but that language and thought are coextensive. This 'coextension' points out that we need a concept that transcends and includes the interior and exterior processes. As described, we use the trans-metaphysical perspectives for this. We define framing as the enactment of a particular perspective because people -universally- use perspectives both in 'exterior talking' as well as in 'interior thinking' to make sense of the world.

Although thinking and talking are similar processes, people understand words and the world differently. There is no universal language of which the signifiers signify similar subjective experiences within all people. Rather, words enact different worlds within different people ('worldspaces'), and the people on this planet have, in fact, developed civilizations with different languages that enact different world-views. The notion of world-view as the interior dimension of language was first defined by Humboldt in 1836 stating that "the inner form of language is coextensive with a world-view" (Stanford Encyclopaedia of Philosophy, 2012). Whorf continued this line of thought describing more particularly how "the syntactic-semantic structure of a language becomes an underlying structure for the worldview through the organization of the causal perception of the world and the linguistic categorization of entities" and how this "further modifies social perception and thereby leads to a continual interaction between language and perception" (Whorf, 1956). This epistemic-semantic tie, is most eloquently defined by Humboldt: "the character and structure of a language expresses the inner life and knowledge of its speakers, and languages must differ from one another in the same way and to the same degree as those who use them" (Stanford Encyclopaedia of Philosophy, 2012). To acknowledge this connection, we can simply look at the strong tie between language and world-view among all the cultures on earth throughout time and space. Both a person's language and world-view depend on his/her social context: what we know and how we talk depends on where and when we live. However, how we understand the world (epistemic), and how we understand a word (semantics), differs not just on a large intercultural scale, but also from individual to individual. This difference in understanding is likely to be of influence on the online discussions, because 1) disputants come from different backgrounds, 2) are concerned with the metaphysics of reality, 3) have no shared objective reality of referents (they cannot point and say "you see that? That's what I mean"). So on Google Groups, a word, such as 'spiritual' or 'science', means different things to different people. How then, can we say anything about the signified (interior perception) by the observation of signifiers (exterior words)? How can we write about world-views, when the words that are used to express these worlds mean different things to different people? Who's language, and who's metaphysics are we to use? With what words, and within what world-view are we to describe frames?

To interpret the meaning of words (semantic), and/or the world (epistemic) we transcend the level of perceptions to see how all perceptions arise from *perspectives.* These perspectives are mapped by the integral framework. Although the 'mapping' of perceptions is still an interpretive process, the map allows us to integrate various semantics (languages) and epistemologies (world-views) and show how they relate.

Hence, people -universally- use perspectives both in 'exterior talking' as well as in 'interior thinking' to make sense of the world (1), and different people understand words and the world differently (2). To move from language (empirical level) to perspectives (conceptual level), we use a positivistic method for linguistic universals (syntax), and an interpretive method for linguistic variation (semantic). Language has universal aspects, i.e. 'linguistic universals' (all people make sense of the world by taking perspectives in thought and talk, indicated by a sentence's structure of subject-object, pro(nouns), verbs and other

syntactic features of language) and relative aspects, i.e. 'linguistic variation' (a word, such as 'science' means different things to different people, indicated by semantics). In chapter 3, we show how linguistic universals can be *translated* into perspectives. In chapter 2, we *interpret* the meaning of words and accommodate diverse perceptions into a single integral framework (and thus describe the meaning of a word, or an understanding of the world, in terms of perspectives). Figure I on page 16 … shows how both chapter 2 and 3 conceptualize language into perspectives and thus make an 'Integral Methodological Framework'.

*Identity and Ideology*

Recapped, a particular perspective leads to particular perception of the world. We interpret language as a system of perspectives that resembles interior perspectives and examine the perspectives (frames) disputants use to make sense of the world. 'World-view' is simply defined as the perspective ('view') on the world ('world' in the most general sense), which includes perspectives on the issue or 'things' (ideology) and perspectives on identity or 'people'.
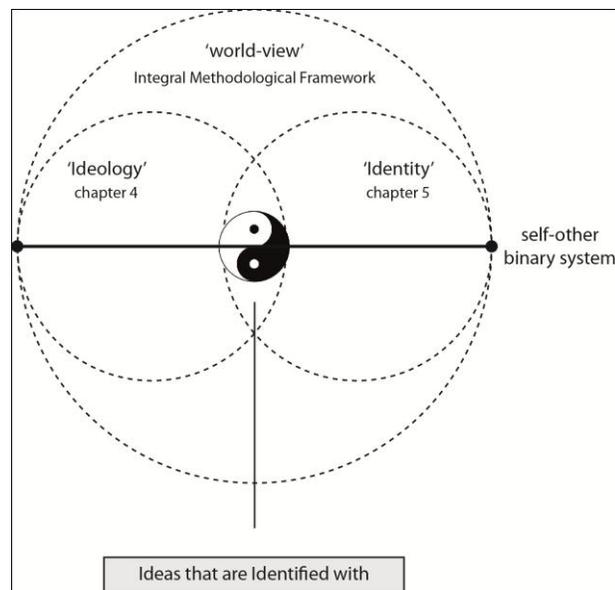


Figure VIII, The concepts 'world-view', 'ideology' and 'identity' in this research (Tim Stevens, 2012)

Ideology and identity are strongly related. To understand this, we first need to realize that the entire epistemological process (i.e.: knowledge acquisition) is contingent on the binary system of Self-Other. We think in contrasts. In order to see, know or say any 'thing' at all, we have to put it in contrast to some 'thing' it is not, something other, so that the demarcation of 'it' becomes clear. Self and Other, or perceiver and perceived, or subject and object, are interdependent and form the most basic binary system for knowledge acquisition. First and foremost, one makes sense of the Self only in relation to, or by contrast with, something Other. In fact, our senses open outward and without anything on the other end of our senses we would not perceive anything, and so we get to know ourselves through our interaction with the world – the world tells us who we are. This 'Other' is everything not self, which consists of the entire exterior objective world, including other persons. The Self-Other binary system functions on a very basic level to differentiate ourselves as a subject from the world of objects around us, but also functions on a more personal and practical level in which we form a concept of our self (an identity) in relation with, and by contrast to, others. The ideas about our self (identity) thus coincide with the ideas we have about the world and our relation with it (ideology).

Whereas we define a world-view simply in terms of perspectives, ideology and identity are built of a set of perspectives (a set of frames) and include attribution of meaning to the arisen perception (or 'worldspace'). Ideology is a coherent set of ideas about the world. In our framing-analysis it is simply a person's collection of issue-frames. Identity is a coherent system of ideas about Self and Other.

There is a close relation between people's 'identity' and 'ideas'; between how people think and talk about 'themselves' and a 'topic' (and thus; between identity-frames and issue-frames). In cognitive science, the concept of 'schema' reflects the notion that 'identity' is part of people's 'ideas'; identity is the idea of oneself which comprises an identification with ideologies. In the field of social psychology, 'ideas' are considered to be part of, or stem from, people's 'identity'; people's values and opinions are socially constructed and behavior changes according social context. Indeed, Symbolic interactionism describes the reciprocal relation between 'ideas' and 'identity' by its basic premise that a) meanings are constructed during social interaction, and constructed meanings, in turn, influence the process of social interaction, and that b) the 'the self' is a core meaning constructed through social relations, and, in turn, influences social relations. Hence, of all meanings, the most important meaning is that of self and other, because the meaning self and other determines how we construct all other meanings. In other words, of all ideas, the most important idea is that of the self.

In the discussions on Google Groups disputants will explicitly discuss issues, not identities (the topic talked about is 'the origin', for example). However, identities can determine issue-framing. Through an issue- and identity- framing analysis we will determine the ideas that are identified with, and through a situational framing analysis we can determine the role of social identity in the debate.

In conflict-studies 'identity' is a central research unit for understanding conflict. There is a special class of conflicts, referred to as 'identity conflicts', 'identity-conflicts' or 'identity-based conflicts', that indicate a conflict in which identity is considered the key instigator (and is differentiated from, for example 'interest conflicts' and 'resource conflicts'). There is no common definition, but Rothman (1997) summarizes; "identity-based conflicts are based in people's psychology, culture, basic values, shared history, and beliefs. Identity conflicts threaten people's basic needs and very survival. These issues tend to be more abstract, ambiguous and intangible." Since identifies themselves are not openly discussed, these conflicts usually appear as ideology conflicts. Identity-conflicts are "a unique class of conflicts that require special handling because they are deeply-rooted in historical fears and frustrations to groups' existential needs and values." Rothman concludes that "the first step in effective resolution is correctly identifying a conflict as an identity conflict" (1997). Most identity-conflicts are so called 'intractable conflicts'; conflicts that last long and seem unresolvable. This certainly holds for the creation-evolution conflict. In this research, we investigate the role of social identity and hold that the online creation-evolution controversy is an identity-conflict if 'framing is determined by identity'[9].

There are ideas at the very core of our thinking which we usually identity with, but also ideas or 'interpretive frames' which we utilize in order to make sense of the world and do not identify with (see Fig VIII). The most salient quest for understanding (intractable) identity-conflicts is to determine; 1) what ideas are identified with, and 2) what ideas identity-groups share.[10] This clarifies the main obstacles and possible bridges in conflict resolution (as pointed out in 'Methodology').

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[9] "If framing is determined by identity" means "*if* the use of issue-frames and identity-frames *corresponds* to two conflicting social-groups *and* is *dependent* on intra-group and inter-group discussions of these groups, *than* the conflict is identity-based.
[10] "ideas that are identified with" are the issue-frames that correspond to the two conflicting social groups

In this research we consider identity to be the idea of oneself. Identity is reflected by a person's perspective on people, whether perspectives on someone else, a group, one's own group or oneself. As described above, te Self-Other binary functions on a personal and practical level, in which we form an idea of our self (an identity) in relation with, and by contrast to, others. If I view you in a particular way, this indicated how I view myself. In this research, the particular correlation of identity-frames (perspectives on people) determines a person's identity.

In social identity theory, the concept of 'identity group' is used to indicate a group of people who share similar categories for self-categorization. Correspondingly, in this research an identity-group is a group of disputants who share identity-frames. An identity-group usually corresponds to a social group, which in social science is defined as two or more people who interact with one another, share similar characteristics and collectively have a sense of unity. A social group, more than an identity-group, are people who not just use similar identity-frames, but relate to each other in a particular way. Hence, in this study we consider disputants who consistently relate to each other in a personal way to form a social group.

This difference of identity-groups and social groups becomes apparent in two approaches to group dynamics: the social cohesion approach and the social identity approach. The social cohesion approach suggests that group formation comes out of bonds of interpersonal attraction and thus requires interpersonal interaction and relations. In contrast, the social identity approach suggests that a group starts when a collection of individuals perceive that they share some social category ('Religious', 'Christian', 'Atheist'), and that interpersonal communication only plays a secondarily role in group formation. More particularly, the social cohesion approach holds that people form groups *through interaction or interpersonal communication,* while the social identity approach holds that people form groups cognitively, when they internalize the same social category membership as a component of their self-concept, *independent of, or prior to interpersonal interaction* (Hogg, M. et al., 2000). With interpersonal interaction we mean message sending and reception between two or more individuals on the Google Groups. To find out whether group formation occurs *through* interpersonal communication or *prior to, or independent of*, interpersonal communication, we examine whether disputants employ *interactive strategies* (talk directly with the other to inquire group membership) or *passive strategies* (read the other's posts, define someone as either an insider or outsider, and then start to communicate interpersonally, 'respond to', outsiders). If group formation occurs prior to, or independent of, the actual interpersonal interaction, this means that there is no communication without group-bias.

Group-bias can become apparent in various ways. A key assumption in social identity theory is a phenomenon known a positive distinctiveness: individual's "strive for a positive self-concept" [idea of oneself]" (Tajfel, H., and Turner, J. (1979). If disputant use different identity-frames to make sense of identity, frames that makes their self-concept positive in relation to others, we speak of positive distinctiveness. Group-bias can also become apparent through the out-group homogeneity effect: the phenomenon that members of an out-group are seen as relatively more homogenous (Quattrone, G. et al., 1980). In this research, this is indicated by the use of 'reference categories' (or 'social categories') mainly for members of an out-group.

The '*social* identity' is that part of identity that changes according the social context and leads to a whole different psychological makeup that becomes apparent in the behavior of the person. To understand the role of social identity, we investigate what frames productive authors from the identity-groups use in an intra-group discussion and an inter-group discussion. This logic is based on the assumption that a change of social context stands for a change in *social* identity. We determine whether a change of social identity (independent variable) effects framing (dependent variable) by analysing issue-frames and identity-frames in different social contexts.

## *Method*

Because each research question has an own method that crystalized in the cyclical process of observation and conceptualization, an outline of the exact line of methods is presented together with the results per sub research question. In this paragraph we first define the source of data and then set out the basic techniques for the framing-analysis.

### *Source of Data: Google Discussion Groups*

The data source for this framing-analysis is Google Discussion Groups ('Google Groups'). Google Groups is an extensive data source for online discussions and has advanced search options for navigation. The openness of Google Groups (no rules, no guidelines and no predefined topics) makes it interesting for analysing how discussions take shape without any control. It is not just a rational philosophical debate, but a public platform that allows for the expression repressed feelings. Since the creation-evolution controversy is identified as an 'intractable conflict' that involves deep-rooted human needs, identity, values and beliefs ('State of the Art'), Google Groups is considered representational for the controversy in these aspects. (The discussion on 'EvCforum.net' for example, requires membership, is intellectual, moderated and thus not representative for the public dispute).

Google Groups is a service from Google where groups of people have discussions about common interests. Internet users can find discussion groups related to their interests and participate in threaded conversations, either through the Google Groups web interface, or by e-mail. Users can also start their own Group or thread. Google Groups includes an archive of Usenet newsgroups and supports reading and posting to these groups. It can now track almost every Usenet group on the internet. This makes Google Groups by far the largest data source of online discussions. Google Groups are categorized into several large areas, each of which is broken into subareas which makes it easy to browse for Groups of interest. Within each Group, there are several discussions (which we refer to as 'threads') that look like email from one user to another, but instead of just being exchanged between two people, these messages are available to everyone who accesses the Usenet or Google Groups. A single message of a User is what we refer to as a 'post'. Users can choose to hide their email address. In this report we quote posts (messages) and part of threads (conversations), to illustrate our method. These quotes are displayed in grey boxes. They are provided with the source (the Google Group from which it stems, not the User) and an end-note that leads to the particular http-address of the website from which the quote derives. The name, or 'alias', of a user is only displayed in the quotation of threads (conversations).

There are several options on Google Groups that are used to gather data. As in Google Search, Google Groups has a search bar in which one can type in words (including word exemptions, word combinations, truncations, etc.). In this research, this is mainly used for entering keywords as indicators of issue- or identity-frames. Besides this, there is an advanced search option that makes it possible to search on size (amount of members or amount of posts), group, subject (subareas), date (any date, time or timeframe), author, and any combination. Since we study the online creation-evolution controversy from 2007 onward, the date is always applied. To find all the posts of an author on diverse threads (as part of the situational framing analysis), we particularly used the 'authors' option. Each User (author) has a profile in which all posts on various Groups, including dates, are displayed. The Rating Post tells the average rating of a post and the average rating of all the posts in the thread. The rating signifies the appreciation of a post or thread and can provide us with information on how arguments are rated on different groups with different members.

Other than common discussions where all speech is shared between all disputants, the online creation-evolution discussion on Google Groups is scattered in terms of disputants, topics and talk. The creation-evolution controversy is discussed in diverse Groups and within diverse threads. Some users are occasionally active on several Groups, others have posted over 75.000 messages within one Group (e.g. "stoney" in "alt.Atheism"). We should see the online creation-evolution controversy as a field that covers multiple sub-discussions of which we do not exactly know how they are related (a network analysis would be needed). This multiplicity and malleability makes it very interesting to study frames in diverse settings

and to determine the role of identity, but the dispersion of discussions and disputants asks for a different approach to framing.

Usually a framing-analysis is conducted to a predefined text. However, in this case-study on the online creation-evolution controversy, no single thread is representative for the online discussion as a whole. The multiplicity and malleability are inherent characteristics of the online creation-evolution controversy. Moreover, the role of social identity cannot be studied within a single thread; we need different contexts. Although a particular text, or a small database (such as a single Group) would serve the verification and internal validity of a research, it would 'in this case' say nothing about the online creation-evolution controversy at large (external validity). In this research, we specify a data-base in which the framing-analysis operates. The framing-analysis itself is a combination of search methods and techniques for text-analysis, and thus a continuous cycle of observation and conceptualization (inductive and deductive methods).

To determine a database on Google Groups for the framing-analysis we take into consideration; the representativeness of the database for what we identify as 'the online creation-evolution controversy' (to secure external validity) and the appropriateness of the database for the method and methodology of this research (to secure internal validity). As pointed out in 'Background', the creation-evolution controversy is "an intricate debate in which different viewpoints are taken (political, social, religious and various philosophical approaches) on different subjects (education, health, nation state, human rights, social security, history), dealing with different characteristics (morality, factually, validity, authority, identity). Enhanced by the digital revolution, the discussion has become very dynamic and malleable. This gives us the opportunity to analyse how disputants shape the debate on online discussion groups by the frames they are using to understand and represent issues and identities."

We thus need a database that does not just represent philosophical discussions on the origin but includes threads on diverse topics (health, science, etc.) that are discussed in relation to (or stem from) the creationism-evolutionism controversy. On 'talk.origins' (a Group with 28.163 subscribers and 8612 messages a month), that describes itself in its profile as "Evolution versus creationism", we indeed find topics such as "Do atoms exist in reality" and "Louisiana is trying to publicly fund religious schools that teach". Discussions on 'talk.origins' cover a range of topics and thus *illustrate* the multiplicity of the online creation-evolution controversy. However, 'talk.origins' alone, does not yet *represent* the online creation-evolution controversy as a whole.

On Google Groups one can search for Groups or threads. A regular search on Google Groups (the standard search option) searches within 'all groups' and thus provides a list of threads, not Groups, in the search results. Searching on "creationis*" and "evolutionis*" with this option provides a list of threads only with these words, and thus generates a database too narrow for the creation-evolution controversy. The results of an issue-framing analysis in such a dataset would simply be in accordance with the search method used to determine the database. For example, the largest part of 'talk.origin' would be excluded. Hence, the database needs to be based on the level of Groups, not threads, to include all discussions related to the topic and not just those who explicitly use the words "evolution*" and "creationi*" in the conversation. Still, in determining the database of this study we want to use no other search terms than "creationis*" and "evolutionis*". Using other terms, such as 'religion', 'science', or even 'origin', would not accurately represent the 'creation-evolution' controversy, and directly influence the results of the (issue-) framing analysis.

Taking this into account, the database was determined by the following method:

First, we searched on Groups with "creationis*" and "evolutionis*". This listed the Groups who use these terms in their profile description. These groups are fully dedicated to this topic. Only three groups were of a significant size (more than 100 members): 'talk.origins', 'Creation vs Evolution' and 'alt.talk.creationism'. Second, we searched on threads with "creationis*" and "evolutionis*". This resulted in a list of threads, of which the Group of each thread was also displayed. The five Groups that were most frequently displayed in the first 100 results were selected. Within each of these Groups we again searched for "creationis*" and "evolutionis*". Four Groups hosted more than 100.000 messages with these terms (the fifth less than 100, which made an easy demarcation): 'talk.origins' 'Alt.Atheism', 'alt.religion.christian' and 'Atheism vs

Christianity'. Together, these two method resulted in a database of six Groups (talk.origins was apparent in both results). On the 'Advanced Groups Search' web-page we made a pre-set search option allowing us to do a single search within these Groups together (so that a 'word' or 'author' is searched for within all these Groups simultaneously). Moreover, we selected for messages from 2007 onward. In this report, we refer to this database as the CE-Groups ('CE' for 'Creation-Evolution').

This database of only six Groups is huge in quantity. A search on Google Groups makes clear that these Groups together host over 10.000.000 messages in the period 2007-2012, and cover more than 90% of the threads with "creationis*" and "evolutionis*". Although we solely searched on "creationis*" and "evolutionis*" to determine the database, these Groups cover discussions on other topics, but in relation to the creation-evolution topic. Moreover, the Groups differ from each other in significant ways and cover a range of different 'contexts' for the method of this framing study. The database covers:

- Unbiased or balanced Groups dedicated to the creation-evolution topic: 'talk.origins', 'Creation vs Evolution'.
- Groups that host the majority of the discussions (threads) on the creation-evolution topic, but are not primarily concerned with the topic (thus hosting disputants, threads and messages not primarily concerned with, but related to, the creation-evolution topic': 'Atheism vs Christianity', 'alt.religion.christian', 'Alt.Atheism'.
- Biased or predisposed Groups that discuss the creation-evolution topic: 'alt.talk.creationism', 'alt.religion.christian', 'Alt.Atheism', (for 'creationists', 'Christians' and 'Atheists' respectively).

This database does not allow for a quantitative analysis because the database as a single whole is simply not representative in amount of words, posts, threads, disputants or any other aspect. For example, 'Alt.atheism' hosts 134550 members while 'Creation vs Evolution' only 166, even though 'Alt.atheism' hosts relatively more biased threads and relatively less threads on the creation-evolution topic. The framing-analysis is qualitative and combines search methods and text-analysis. 'Search methods' stand for taking different samples of the database, whether it is through the search method of entering keywords, the selection of authors or specifying time-frames. 'Text-analysis' stands for the empirical analysis of texts, partly through tagging, to infer conceptualizations. The framing-analysis is a continuous cycle of induction and deduction; generating conceptualizations (such as hypothetical frames) from observation and then using these conceptualizations, such as keywords that represent a frame, to guide which observations to make. In 'Framing-Analysis' we only specify a search method ('sample'), when a single sampling was used to derive the results from, such as in 5.2 for a quantitative analysis. However, the results are generally deduced after various cycles of diverse search methods that cannot be outlined in detail. In that case, the general process to generate the results is described.

The dominant criticism on the methodology of framing-analysis is that the interpretive (inductive) process is ambiguous. It is often unclear how the researcher moves from the empirical level to the conceptual level, or more particularly, how the researcher distinguishes and defines frames. In 'Conceptual Framework' and 'Integral Methodological Framework', we develop a new methodological and theoretical approach to framing that aims to overcome this ambiguity (trans-metaphysical perspectives of integral theory). Although this is part of our method, we only focus on the particular techniques employed for data-collection in this part.

Framing is an elusive concept to measure, as demonstrated by Mahler (Maher, T. 2001: 84). Framing-analyses are largely qualitative and rest on interpretation, rather than on the direct quantification of signifiers. Most framing studies, starting from Goffman's initial thesis (Gamson, 1975: 605), offer no explicit measurement model. The cyclical process of observation and conceptualization is impossible to outline completely. Most studies provide a single principle used for the detection of frames, rather than a full-fledged method. For example, McCaffrey and Kayes simply say that "during the data collection process, we coded all evidence of acknowledgment of or reactions to the ideas" without mentioning how

the coding was done (McCaffrey, Kayes 2000: 49) In the study of Statham and Mynott (2002) the frame identification process is described in a footnote with "frames were analyzed from the actual language of the reported claim (direct and reported speech)" (Statham and Mynott, 2002: 10, Fn. 6). And another study describes the method as follows: "After a first reading of the material, five thematic dimensions have been identified". And later describe how this process was then "complemented by an in-depth qualitative analysis of the data" (Traindafyllidou, 2002: 3.7 & Fn. 10). In practice, qualitative framing-studies use methods from discourse-analyses and sociolinguistics, and techniques borrowed from text-linguistics, but these are commonly not specified. In this study, we acknowledge that a full-fledged description of a qualitative framing study is impossible, but describe the main techniques used for data-collection in the greatest detail possible.

To trace a path from data to theory, we use the 3A perspective: Annotation, Abstraction and Analysis, first introduced by Wallis and Nelson (2001). This reflects the main stages of this research, but also the continuous cycle of the method to detect and define frames (observation, translation, interpretation, conceptualization) as displayed in figure 1 on page 14. Although the 3A-method is used in quantitative analyses in corpus linguistics, we use a similar logic in our qualitative inquiry.

According Wallis and Nelson (2001), annotation (1) consists of the application of a scheme to texts and commonly includes structural markup, part-of-speech, tagging, parsing, and numerous other representations. More broadly, annotation means the application of notes to raw data and thus demonstrates how the researcher makes sense of the text.
Roughly we use three methods for the framing-analysis, 1) on Google Groups we use keywords in the search engine for finding relevant threads (texts), 2) within the text we use keywords in the search option of Internet Explorer to tag words, 3) the tagged texts is then annotated manually.
In most framing-studies, keywords are generated by mapping the most frequently occurring words or strings within the data, and these keywords are then used to detect frames. In this study, the generation of keywords and the use of keywords to identify frames is not a two-step procedure but a cyclical process from the empirical level towards the conceptual level. Although we use keywords for identifying issue-frames, we do not display a list of keywords for each issue-frame simply because there is no set of predefined keywords that indicates an issue-frame. Besides keywords, we use key-representatives. In the issue-framing analysis for example, the detection of issue-frames and positions was mostly 'issue-based' (using keywords), while the verification of a correlation of frames was mostly 'disputant-based' (using 'key-representatives'). In both the issue- and identity-framing analyzing we pay close attention to "figures of speech", such as metaphors, metonymies and synecdoches. Figures of speech are often directly indicative for particular frames, and are thus annotated in the text. For example, generalizing synecdoches, such as the "collective singular" (referring to a group as one entity rather than as a collection of individuals), is used to identify reference categories in 5.2. In general we use plural pronouns as keywords for the identity-framing analysis. Personal pronouns are deictic, (words of which the denotational meaning varies), and we analyse what they mean in the (con-)text to identify identities. For the identity-framing-analysis we tagged and annotated: minimal cues, reference categories, referential pronouns, traits of reference group, plural relational pronouns, third-person relational pronouns, and traits of person. This technique is demonstrated by applying it to a piece of conversation from Google Groups. However, in general we do not elaborate on all the (annotative) techniques in 'Framing-Analysis' (part 2), but outline some basic methods before presenting the results.

Abstraction (2) consists of the translation (mapping) of terms in the scheme to terms in a theoretically motivated model or dataset (Wallis and Nelson, 2001). As described in 'Conceptual Framework', we translate language into (trans-metaphysical) perspectives. Most eloquently in this study; the annotated personal pronouns, are abstracted to trans-metaphysical perspectives. For example, "we" is first abstracted ('translated') into "first-person plural subjective perspective" (which has direct implications according our theoretical model). This is then further abstracted ('interpreted') by looking at the meaning of "we" in the particular case, such as "Christians". The process of translation is guided by a syntactic analysis (defined in chapter 3), and the interpretation is guided by a semantic analysis (defined in chapter 2). The abstraction of language into integral (trans-metaphysical) perspectives is a new method described in chapter 3. The representation of language as perspectives is in terms of integral mathematics, outlined

in 3.2. Although qualitative studies commonly abstract a complete annotated text, we use this method of abstraction as an interpretive device, and not to translate the source-text in terms of integral mathematics (there is no predefined 'source-text', only a predefined database)

In corpus linguistics, the last phase 'analysis' (3), is defined as statistically probing, manipulating and generalizing from the dataset (Wallis and Nelson, 2001). In this study, we do not apply a statistical analysis but use the 'Integral Methodological Framework' for "generalizing from the dataset": interpreting, conceptualizing and analyzing the findings from phase two. In phase two 'abstraction', we show how language is a system of perspectives that allows us to interpret the meaning of language trans-metaphysically. But who's language, and who's metaphysics are we to use to describe and analyze these findings? With what words, and within what world-view are we to describe frames? And how do we analyze the variety of frames if they all represent a different language or world-view? To describe and analyze frames we need a common language or framework that integrates our findings. Integral theory offers such language and provides a framework that allows us to anchor or accommodate our findings (the frames). Although the 'mapping' of frames is still an interpretive process, the map allows us to integrate the result and analyse how frames relate. Integration does not mean fusion, but transcending to a (more abstract, theoretical) level that shows how the findings relate. Hence, in this phase, the findings of the second phase are framed in theoretical terms useful for analysis. The integral map of chapter 2 in particular was used as a theoretical framework for defining and differentiating frames.

At last, we should note that the 'preliminary analysis' is conducted prior to the framing-analysis (Part 2), but during the course of this research, of which the results are taken as premises to steer the research. These results are thus not reported separately, but referred to in Integral Methodological Framework (Part 1).

# Part 1: Integral Methodological Framework

*"And God said, "Let there be light". And there was light. And God separated the light from the darkness.."*

*–Genesis 1:3–*

In a lecture on Zen in 1967, Alan Watts wittily commented on this phrase from Genesis 1:3 by teasing that God first said "You have to draw the line somewhere", before "Let there be light", since we do not know 'darkness' without 'light'. To illustrate this, Watts drew a circle on the blackboard and asked the audience: "If your vision were coterminous with the outline of the circle, would you see it?" Obviously, the audience concluded that they would not be able to see a circle without its *out*line - you have to see it by contrast to its background. And so "you have to draw the line somewhere" before you are able to see anything at all. That is, in order to describe some 'thing' (light) we have to describe it in relation to some 'thing' other (darkness). In this way - by increasing differentiation, or 'classification' -, we know more and more 'things'. In Watts's words, "a thing is a think, a unit of thought", it is a cognitive demarcation or conceptual line that distinguishes an inside from an outside in space and time. In order to *see*, *say* or *know* any 'thing' at all, you have to draw the line somewhere. Watts concluded with the claim that "the omnipotent being is unconceivable because we cannot understand the class of all classes", peculiarly leaving the question whether God really exists.

Fortunately, our quest is not to proof or disproof the existence of God, but to make sense of the debate, which *is* classifiable. To understand the debate and analyse it empirically, we have to draw the line somewhere: we have to distinguish one thing from another. There are several ways of drawing the lines, each producing a different 'web' or framework. The way we distinguish one thing from another determines what we see and what we don't see. And to find useful ways of drawing the lines will be our first quest; to create a web which enables us to see, know and say precisely those things that enlighten our understanding of the online creation-evolution controversy; to develop methodological and theoretical framework. Hence, before we are able to describe the frames of disputants, we must explain the framework we use ourselves to see, know and describe the frames of disputants.

# 1. Differentiations of the Creation-Evolution Controversy

In this chapter, we look at the various ways disputants understand the topic (i.e.: various epistemological differentiations). As described in the introduction, the online discussion is a multilateral and malleable discursive field, which crosscuts various matters from different angles with different viewpoints. There are thus several ways to differentiate the debate and to make sense of the writings on internet discussion groups. The discussion can be categorized into different standpoints, into different forms of argumentation, into different ways of reasoning, into different worldviews, into different foundational beliefs, etc. In this chapter, we start with very basic classifications (popular in traditional literature) that are relatively explicit on the CE-Groups, and work towards increasingly abstract differentiations that indicate more foundational epistemological differentiations. It is a first step in connecting the empirical analysis to epistemological conceptualizations. It provides a comprehensive understanding of the discussion that is related to traditional conceptualizations from literature.

First, in 1.1, we review the '*creation-evolution continuum*' (Scot, E. 2009); the most common classification of standpoints concerning the origin of life. This connects our study with the social-historical context and traditional literature. The most salient question that the continuum brings about is whether the relation between religion and science is characterized by conflict or by concord. In 1.2 we try to demarcate *science and religion* and find that there is conflict along certain dimensions, concord along others. Since science and religion do not fully account for the different stances in the discussion, we unravel the debate one step further by discovering how various *ways of reasoning* underlie the traditional *arguments* for and against the existence of God (appendix 2). Finally, in 1.3, we find that most of the discussion emerges out of different '*foundational beliefs'* (empiricism, rationalism, relativism) with contrary metaphysical underpinnings (idealism, realism/materialism).

The results of this chapter are based on an exploration of the CE-Groups ('preliminary analysis') and relating this to epistemological differentiations from literature. Each chapter begins with a quote from the CE-Groups.

## 1.1 The Creation-Evolution Continuum

*"The creation–evolution continuum is an excellent introduction for those who erroneously think that there is one "kind" of creationist (Biblical literalist) and one "kind" of "evolutionist." But like PV=nRT, or benzene with 3 double bonds, it's an oversimplification, though probably one that's necessary to avoid overwhelming the reader."*

*(talk.origins Google Groups)[i]*

The debate on the origins, or 'the battle over the meaning of everything' (Slack, ) is typically framed as a dichotomy between 'creationists' and 'evolutionists'. And indeed, when looking through such glasses - or should we say '*bino*culars' - the debate seems to be this black/white binary opposition, especially when disputants are discussing under the same dominant frame and reconstruct a variety of perspectives, issues and identities into a parallel dichotomized reality. But when inquiring more deeply into peoples stances towards the origins, we actually find a colorful spectrum covering a variety of perspectives on Life. The most well-known and widely-applied differentiation of views on the origins is the creation-evolution continuum (Scot, E. 2009). We will start with an analysis of this continuum to connect our study to the traditional literature and the social-historical context of the controversy.

The strictest creationists are the *Biblical Literalists*, such as Flat-Earthists and Geocentrists. Members of the Flat Earth Society believe that the shape of the earth is flat because a literal reading of the Bible demands it (Schadewald, R., 1987). Scientific views are of secondary importance. Geocentrists accept that the earth is spherical, but deny that the sun is the center of the solar system. On the online discussion groups, we found disputants who openly stated to be a 'biblical literalist', but they did not specified to belief the earth is flat or the center of the creation. The term can mean a more broad preference to interpret the Bible literately (without going into the factuality at all).

*Young-Earth Creationists* don't interpret the flat-earth and geocentric passages of the Bible literally, but they reject modern physics, chemistry, and geology concerning the age of the Earth, and they deny biological descent with modification. In their view, the Earth is from 6,000 to 10,000 years old. The term 'Young-Earth Creationist' (YEC) is usually reserved for the followers of Henry Morris, founder and recently-retired president of the Institute for Creation Research (ICR), and arguably the most influential creationist of the late 20th century. He initiated 'Creation Science' or 'Scientific Creationism', a branch of creationism, which attempts to provide scientific support for the Genesis creation narrative and disprove generally accepted scientific facts, theories and scientific paradigms about the history of the earth, cosmology and biological evolution. Basically, it disregards science altogether and replaces it with a new body of knowledge coherent with the Genesis, which *they* refer to as 'science'. Though no disputant stated to be a YEC, our preliminary analysis shows that its claims are widely defended.

*Old Earth Creationists (OEC)* do not take the age of the earth in Genesis literally. They interpret the Genesis narrative in a number of ways, but generally try to take it as literally as possible next to scientific knowledge. This is why some call it the 'God of the Gaps' belief: Where there are scientific gaps there is God. One of the better-known accommodations of religion to science was Gap or Restitution Creationism, which claimed that there was a large temporal gap between Genesis 1:1 and 1:2. Gap Creationism posits that the six-day creation, as described in the Book of Genesis, involved literal 24-hour days, but that there was a gap of time between two distinct creations in the first and the second verses of Genesis, explaining many scientific observations, including the age of the Earth. Another attempt to accommodate science to a literal, or mostly literal, reading of the Bible, is the Day-Age theory. This model accommodates science and religion by rendering each of the six days of creation as long periods of time - even thousands or millions of years - instead of merely 24 hours long. These two stances have made (their interpretation of) religion compatible with scientific claims about the age of the Earth, rather than trying to alter 'science'. Progressive Creationism (PC) is held by the majority of today's Old-Earth Creationists and includes more of today's scientific claims. PCs generally believe that God created 'kinds' of animals sequentially; the fossil record is thus an accurate representation of history because different animals and plants appeared at different times rather than having been created all at once. PCs reject the inference that earlier forms are genetically related to later ones; 'kinds' are separate creations, so 'descent with modification does not occur'. This position is also generally mild in developing an own domain of 'science'. It denies some scientific claims, leaves others undisturbed, and then looks for gaps to accommodate as much aspects of the Book of Genesis as possible. Though these positions are common on the online discussion groups, no disputant stated to be an Old Earth Creationist. To call yourself a 'Progressive Creationist' seemed more fashionable, but this term was understood more widely and also included some disputants who hold Neo-Creationist beliefs.

*Neo-Creationists* distance themselves from other forms of creationism, preferring to be known as a separate scientific philosophy. Their goal is to detach themselves from constitutionally prohibited earlier forms of their movement ('Creation Science') by restating creationism in terms more likely to be well received by the public, education policy makers and the scientific community. It re-frames the debate over the origins of Life in non-religious terms (leaving The Book of Genesis out of consideration), even though supporters hold a range of underlying theological viewpoints. Neo-Creationism currently exists in the form

of the Intelligent Design Movement[11]. Intelligent design is the proposition that 'certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection' (Scot, E. 2009). The movement was developed by a group of American creationists who revised their argument to circumvent court rulings, which barred the teaching of Creation Science in public schools as breaching the separation of church and state. The first significant published use of intelligent design was in 'Of Pandas and People', a 1989 textbook intended for high-school biology classes. From the mid-1990s, intelligent design proponents were supported by the Discovery Institute, which, together with its Center for Science and Culture, planned and funded the Intelligent Design Movement. They advocated inclusion of intelligent design in public school curricula, leading to the 2005 Kitzmiller v. Dover Area School District trial, where it was ruled that they violated the Establishment Clause of the First Amendment to the U.S. Constitution. Intelligent design is not science; 'it cannot uncouple itself from its creationist, and thus religious, antecedents'.

*Evolutionary Creationism (EC)* is actually a type of evolution: God the Creator uses evolution to bring about the universe according to God's plan. From a scientific point of view, evolutionary creationism is hardly distinguishable from Theistic Evolution (TE), which follows it on the continuum. The differences between Evolutionary Creationism and Theistic Evolution lie not in science but in theology, with EC being held by more conservative (Evangelical) Christians, who view God as being more actively involved in evolution than do most theistic evolutionists (Lamoureux, D. 2008). Both assert that classical religious teachings about God are compatible with the modern scientific understanding about astronomical, geological and biological evolution. Theistic Evolutionists believe that there is a God, that God is the creator of the material universe and (by consequence) all life within, and that biological evolution is simply a natural process within that creation. Evolution, according to this view, is simply a tool that God employed to develop human life. Evolutionary Creationism or Theistic Evolution are not scientific theories, but particular views about how the science of evolution relates to religious belief and interpretation. Theistic evolution supporters can be seen as one of the groups who reject the conflict thesis regarding the relationship between religion and science – that is, they hold that religious teachings about creation and scientific theories of evolution need not contradict. Proponents of this view are sometimes described as Christian Darwinists. It is the official position of the Catholic church. In 1996, Pope John Paul II reiterated the Catholic TE position, in which God created, evolution happened, humans may indeed be descended from more primitive forms, but the hand of God was needed for the creation of the human soul (John Paul II, 1996). Though EC and TE are uncommon to mention on the online discussion groups, a big portion of the debate circles around these (unspecified) positions. Following on the continuum are two non-theistic views.

*Agnostic Evolutionism (AE)* is the position of acceptance of biological evolution, combined with the belief that it is not important whether God was, or is, or will have been involved. The term agnostic was coined by 'Darwin's bulldog', the nineteenth-century scientist Thomas Henry Huxley, to refer to someone who suspended judgment about the existence of God. Huxley felt that human beings, part of the material universe, would be unable to grasp ultimate reality. Therefore, neither belief in nor rejection of the existence of God is necessary. Huxley was a strong supporter of science and believed that knowledge and beliefs should be based on empirical knowledge and that science would eventually supplant supernaturalism, but he felt it was more honest not to categorically reject an ultimate force or power beyond the material world. Agnostics believe that, in this life, it is impossible to know truly whether there is a God, and although they believe that it is not probable that God exists, they tend not to be dogmatic about this conclusion. Our preliminary analysis of the CE-Groups indicates that the term 'agnostic' is quite common and well-known, but that it is very uncommon to acknowledge *being* agnostic (no identification).

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[11] Appendix 1 displays a search on Google Labs Ngram Viewer, showing how the use of the phrase "Scientific Creationism" went down in the late 1980's and how "Intelligent Design" arose around 1989 as an attempt to boast the movement by replacing or 're-framing' the concept in more scientific and less dogmatic terms

A large group of disputants does seem to remain in the dark about the reality of God or anything supernatural.

*Materialist Evolutionism (ME)* rejects the existence of God in any form. To explain this, it is important to distinguish *methodological* naturalism from *metaphysical* naturalism, and connect this to *materialism*.
*Methodological naturalism* is a ground rule of science today which requires scientists to seek explanations in the world around us based upon what we can observe, test, replicate, and verify. 'Nature' in this sense refers not just to the 'natural world', but simply to everything which can be described in terms of a closed system of natural causes (rather than subscribing effects to supernatural causes). In this view, science in and of itself is neutral to religion because 'meta-physical' or 'super-natural' forces are outside of what it can consider as causation.
Note that 'metaphysical' has two meanings; 1) a view on 'what there is'; the fundamental nature of 'reality' (in its broadest meaning) -, or simply 'supernatural'. *Methodological naturalism* holds that supernatural causes are not measurable and thus lay outside the domain of science (epistemological claim), while *metaphysical naturalism* holds that supernatural causes do not exists metaphysically or ontologically – it is a philosophy about the nature of reality. Metaphysical naturalism or ontological naturalism, is a philosophical worldview and belief system that holds that there is nothing but natural things, forces, and causes of the kind studied by the natural sciences. From this stance, all concepts related to consciousness or to the mind refer to entities which are reducible to or supervene on natural things, forces and causes. *Metaphysical materialism* thereafter, holds that the only thing that exists is matter; that all things are composed of material and all phenomena (including consciousness) are the result of material interactions. It does not just hold that all there is is natural, but that all there is is matter. This is the stance of materialist evolutionists. It basically holds that not just 'supernatural' things do not exists, but anything 'immaterial' does not exist.
Materialist Evolutionists go beyond the methodological materialism of science to propose that matter is all there is: the non-physical does not exist. This is thus a form of philosophical materialism (sometimes defined as naturalism or scientism), which is distinct from the practical rules of how to do science.
These terms are particularly used in the online creation-evolution discussion when 'science' is at issue but are uncommon to signify one's own position in the discussion as a whole. Those who clearly and proudly state to be an 'evolutionist' support metaphysical naturalism but also tend to defend metaphysical materialism. It seems to be the case that you can only call yourself an 'evolutionist' if you are at the very end of this spectrum.

The creation-evolution continuum already shows some more diversity than the creation-evolution dichotomy. The problem with this continuum however - or in fact with every continuum -, is that it constitutes only one variable. In this case, the range of possible arguments and perspectives on various aspects is put under 'the creationism-degree.' But what exactly determines 'the creationism-degree' or 'the evolutionism-degree' of a position? Isn't there are range of possible perspectives on a range of topics based on a range of worldviews, engendering countless potential stances which cannot be put along a single-variable line? It seems unsound to bring all the colourful combinations of possible arguments on various topics under this one-variable continuum. Moreover, our preliminary analysis showed that the online creation-evolution controversy is not just about 'the origins'; the debate is about the meaning of science, religion, and even concerns education. We thus need to distinguish the debate on a more abstract epistemological level.

Perhaps the first thing we should explore is what 'science' and 'religion' is, or more accurately; what 'science' and 'religion' *mean*. The creation-evolution continuum showed that even creationists have some form of 'science' to explain supernatural existence and underpin their stance. On the other hand, more evolutionistic stances provide space for metaphysical notions, such as for the existence of God, though mostly in its more abstract meaning. The most salient question that the continuum brings about is whether the relation between science and religion is characterized by conflict or by concord. Do all position on the continuum have 'a religion' and 'a science', or should we say that one position is either scientific or religious?

## 1.2 Science and Religion

*"In my months on talk origins I've learned one thing. That those who believe creationism is not scientific do so because the fundamental assumption of their version of science is that no God created life".*

*(talk.origins Google Groups)[ii]*

The quote illustrates that, 1) science and religion are heavily discussed on the CE-Groups and 2) there seems to be no consensus on what both entail. This disputant said that for many evolutionists, 'science' is only science when it entails that "no God created life". If religion means 'belief in God', then science and religion would indeed be binary opposites. But, as we will see, science and religion can be defined in many ways, none of which is ultimately 'correct', and none of which can clearly demarcate one from the other.

The relation between science and religion, two great cultural forces, has been tumultuous, many-faceted, and confusing. The most publically open and thus dominant way to think and talk about these two forces is under the political frame. The political discussion in Western civilizations is unquestionably ruled by the notion of secularism in which politics (including education and science) and religion are, or ought to be, separated. Secularism has brought the idea of separation, but the common notion is that science and religion are not just different, but inversely related in their deepest nature: 'as the former waxes, the latter wanes'. The word 'secularism' simply indicates the separation of religion and state that enables freedom of religious belief, but the word 'secular' is used as a synonym for 'profane' which means non-religious: not just 'separate', but 'the opposite'. This stems from our notion of recent history: the age of enlightenment came with secularism, the fall of religion, the rise of science and a general trend of materialism and rationalization throughout the 21$^{st}$ century.

However, any claim about whether science and religion conflict or concord depends on the definition of the two. The most salient question is thus not so much *whether* the relation between religion and science is characterized by conflict or by concord, but *where* religion and science conflict and where they concord. There is conflict along certain dimensions, concord along others, and this is where our interest lies for empirical inquiry – not in presupposed distinct dichotomies, but in a differentiation of meanings, beliefs and ways of reasoning.

In this paragraph, we first attempt to define science and religion separately, and see how they relate on particular principles. Second, we describe the general views on the kind of relations between these two forces: conflict, independence, dialogue, and integration.

### 1.2.1 Science

What are the necessary and sufficient conditions for a given inquiry or theory or claim to be scientific, a part of science? This is hard to say and there is not much consensus in the scientific community. Some (realists) say the aim of science is to produce *true theories*, while others (empiricists) say the aim of science is to produce *empirically adequate theories*, whether or not they are true (van Fraassen, 1980). Again others simply hold that science cannot deal with the entire *subjective dimension of reality* (metaphysical materialism). In the uproar over the teaching of Intelligent Design in public schools, some have said that scientific theories must be *falsifiable*, and since the proposition that living things have been designed by one or more intelligent designers isn't falsifiable, ID isn't science. Then, there are those who hold that science can deal only with what is *repeatable*. But what about the Big Bang? If it turns out to be unrepeatable, must we conclude that it can't be studied scientifically? Still others claim that science is constrained by *methodological naturalism* - the idea that neither the data for a scientific investigation nor a scientific theory can properly refer to the supernatural. But should we then just leave the big questions to

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the domain of religion? Or do we need to approach these questions scientifically? And what then, is this 'scientific approach' exactly? According the eminent German chemist Walther Nernst science, by definition, requires an infinite universe; hence Big Bang theory, he said, isn't science (Weizsäcker von, N. 1977). He basically provides reasons to presuppose 'the infinite' or 'omnipotent' (which to some is 'God') before science can work.

Logical Positivists, empiricists, falsificationists, realists, and all 'scientists' who hold a combination of presumptions about what science is, have claimed to give a definitive account of the logic of science, but each has in turn been criticized. After over a century of dialogue among philosophers of science and scientists in varied fields - and despite broad agreement on the basics of *the scientific method* -, the boundaries between science and non-science remain blurry. Many conditions have been proposed as essential to science but no single set is agreed upon. In fact, many philosophers of science have given up on the 'demarcation problem', the problem of proposing such conditions (Laudan, L. 1983). We can say that there are several quite different activities that go under the name 'science'; these activities are related to each other by similarity and analogy, but there is no one single activity which is just science as such. There are projects for which the criterion of success involves producing true theories; there are projects where the criterion of success involves producing theories that are empirically adequate; there are projects constrained by methodological naturalism, and; there are other projects, such as phenomenology and hermeneutics, which focus on the subjective domain of reality. These projects or activities all fall under the meaning of the term 'science'; but there is no single activity of which all are examples. The criteria for a system of assumptions, methods, and theories to qualify as science today remain to vary in their details from application to application, and vary significantly among the natural sciences, social sciences and formal sciences. Generally, we can say, the criteria for the hard sciences include (1) the formulation of hypotheses that meet the logical criterion of contingency, defeasibility, or falsifiability and the closely related empirical and practical criterion of testability, (2) a grounding in empirical evidence, and (3) the use of scientific method.

One argument for demarcating science from religion is to state that science does not make morality claims. A fact-value (is-ought) distinction has been traditionally used to argue that the scientific method cannot address moral questions beyond *describing* the norms of different civilizations. However, there is in fact a rising scientific field called 'the science of morality'. The science of morality is the idea that morality can be *prescribed* only with the help of (and perhaps exclusively with) the philosophy of the scientific method. It pleas for a philosophy of science and epistemological justification that can overcome the is–ought problem by embracing the concepts of moral universalism and ethical naturalism. It challenges divine command theory and natural law-based moral justification for traditional values. Sam Harris (2010), argues in his book 'The Moral Landscape: How Science Can Determine Human Values' that "morality should be considered an undeveloped branch of science", a science examining, but also advocating for, that which contributes to human and animal well-being. He adds that 'science' should not be so narrowly defined as to exclude the role of philosophy, or critical thinking about real life events in general. For many ethical naturalists, the line between values and scientific facts is arbitrary and illusory. Hence, the is-ought argument does show a difference between science and religion, but it cannot demarcate science from religion. Moreover, as we will see in the next section, 'religion' is not solely about prescription (morals/values) - it does involve descriptions about the world (it presents 'facts').

Another argument for demarcating science from religion is to argue that science does not make claims about the supernatural or metaphysical. It is indeed true that methodological naturalism cannot draw conclusions about metaphysical reality, but as we have seen; science is not demarcated by methodological naturalism. All sciences contain presumptions about what is 'real' and some sciences make ontological claims about the metaphysical reality. Moreover, many sciences draw ontological conclusions about the immaterial, such as psychology. Hence, *most scientific methods* indeed do not investigate the 'metaphysical', but science, as a broad field of knowledge, has differing metaphysical suppositions and draws differing metaphysical conclusions. Science is actually very much about metaphysical reality, about the quest what is 'really real'.

Science is widely discussed on the online creation-evolution discussion groups, particularly in relation to religion. This suggests that science is generally 'talked about and/or thought of' ('framed') as the opposite

of religion. In our issue framing-analysis this will be a point of attention. The is-ought demarcation seems to be of smaller concern than the metaphysical distinction of science and religion.

Religion is as multifaceted as science, if not more. Religion has caused unimaginable human suffering, conflicts and deaths, but can also bring humanity into increasing levels of unity and dissolve suffering. How can we say we need more religion or spirituality, when it seems to be at the root of many conflicts and human suffering? But, on the other hand, how can we say we should do away with religion or spirituality, when it seems a basic human need that drives personal transformation and unites people in harmony?

Just as we know examples of what we consider science, so do we know examples of what we consider to be religion: Christianity, Islam, Judaism, Hinduism, Buddhism. But how does one distinguish a religion from a way of life, such as Confucianism? Not all religions involve belief in something like the almighty and all-knowing morally perfect God of the theistic religions, or even in any supernatural beings at all. What does a belief have to be like to be religious?

This demarcation problem was recently brought about by the case in Holland, where the 'Party for Animals' (Partij voor de Dieren) proposed to forbid Halal butchery. Antagonists, mainly from Jewish and Muslim traditions, argued that this was against the freedom of religion. But what makes their belief 'theocentrism', distinct from 'biocentrism', one might ask. Why do they reserve this special status (of 'religion') and can hold on to ancient principles which are to a great deal of the non-religious (or should we then say 'other-religious') considered to be outdated and in conflict with current scientific understanding and social values.

Some say the proposition that there is an intelligent designer of the living world is religion, not science. But not just any belief involving an intelligent designer, indeed, not just any belief involving God, is automatically religious. On the other hand, the belief in the non-existence of God, does not make someone non-religious. There are religions (such as Buddhism and Taoism), that classify some of their followers as agnostic, atheistic, or nontheistic. The terms 'atheist' (lack of belief in any gods) and 'agnostic' (belief in the unknowability of the existence of gods), though specifically contrary to theistic religious teachings (e.g. Christian, Jewish, and Muslim), do not by definition mean the opposite of 'religious'. The true opposite of 'religious' is the word 'irreligious'. But when we move from the great theistic religions to religious belief systems with other philosophical foundations closer to 'science' (such as Buddhism), we again find no exact border between religion and science. By zooming in on this boundary it becomes blurry and we find that a clear-cut distinction does not really exist; just a range of different perspectives on a range of different issues. There is thus no clear cut principle on which they can be separated.

The main argument for demarcating religion from science is to state that religion does not make claims about empirical truths, which is the domain of science. Although not all religious texts are interpreted literally, religion does make claims about empirical reality. Religions offer answers to questions about the nature of being, of the universe, humanity, and the divine. They tend to derive morality, ethics, religious laws or a preferred lifestyle from their ideas about the cosmos and human nature, which is also the 'research area' of science. As Richard Dawkins boldly put it: "Religions make existence claims, and this means scientific claims".

There is also the argument that religion and science have a different institutional nature and methodology to arrive at 'the truth'. Obviously, religious institutions are very different from scientific communities, but the interest of disputant on the CE-Groups lies in epistemological differences; how do methods/approaches differ?

Although the method of religions to arrive at the truth (dogma, revelation) is generally very different from science (empiricism), many practices (e.g., observation, verification, rationalism, introspection, following a set of rules) are used in both science and religion. Meditation (observation of the mind), for example, is used in science to study the mind, but in religion for attaining revelation/satori/enlightenment. Some

people will consider philosophy to be a science, while others hold that philosophy is not build on empiricism and therefore is closer to religion. There is a range of institutions and philosophies that are considered 'religious' by scientists, and 'scientific' by theists (such as intelligent design). Although there are institutional methodological differences between science and religion, the methods themselves cannot fully account for the difference between what science is and what religion is. Both look at and think about reality.

In a similar vein, but focusing on epistemology instead of methodology, people attempt to demarcate religion from science by holding that the former is based on belief or faith and the latter based on rationality or reason (fideism-rationalism). Although this might be seen an indicator, faith plays a role in science, and rationality plays a role in religion.

Some see faith as underlying rationality. All beliefs depend for their coherence on faith in our senses, memory, and reason, because the foundations of rationalism cannot be proven by evidence or reason. In this view, all human knowledge and reason is seen as dependent on faith. The belief that the universe is a sensible place and that our minds allow us to arrive at correct conclusions about it, is a belief we hold through faith. So even science is to some extend based on faith. Others (empiricists) contend that this trust is arrived at because they have observed the world being consistent and sensible, not because they have faith that it is. On the religious side, there are countless examples for faith based on reason or rationality. Pope John Paul famously put in *Fides et Ratio:* "Faith and reason are like two wings on which the human spirit rises to the contemplation of truth" (1998).

If we go more deeply into the epistemological nature of 'belief', 'faith', 'reason', 'rationality', and 'empiricism' we find that they are intertwined and all play a part in the process of knowledge construction; whether 'scientific' or 'religious' knowledge. Rationalism can be opposed to fideism, in which rationalism is considered to be more scientific. But rationalism can also be opposed to empiricism, in which empiricism is considered to be more scientific. Both differentiations (fideism-rationalism and rationalism-empiricism) are made on the CE-Groups. The central concern is not whether a belief is either religious or scientific based on either rationality or faith, but more generally; how we come to knowledge. What counts for 'evidence'? Can we attain true knowledge by mere observation (empiricism)? or is thinking the root of all knowledge (rationalism)? And if thinking plays a role, what type of thinking is valid? And do feelings tell anything about the truth? If yes, about what truth? Can we gain knowledge from introspection? If yes, what type of knowledge? All this boils down to an epistemological quest: What is knowledge and how is it best acquired? Although this cannot clearly distinguish 'science' from 'religion', it does seem to be at the root of many of the creation-evolution discussions. In the next paragraphs we unravel these more fundamental epistemological differentiations.

Religion is widely discussed on the online creation-evolution discussion groups. In general, the concern is about how to interpret religion or religious texts. Whereas science is often discussed as a domain of inquiry contrary to religion, religion is also discussed more solitary. When it is related to science, the faith vs. rationality is most heavily debated and generally boils down to fundamental epistemological questions as delineated above.


### 1.2.3 Conflict, Independence, Dialogue and Integration

Religion and science can be defined in several ways and thus can be related (and distinguished) in several ways. Religion and science are two cultural and epistemological forces that have a long relation in history of which the kinds of interactions have been typified as a conflict, independence, dialogue, or integration (Russel, J. (2004). This typology has subsequently been converted into less-known typologies; conflict, contrast, contact, and confirmation; conflict, competition, cooperation, and continuity, or typified as either conflict or concord (Haught, J. 2000).

The conflict thesis proposes an intrinsic intellectual conflict between religion and science and holds that the disciplines contradict and are incompatible with each other. The original historical usage of the term denoted that the historical record indicates religion's perpetual opposition to science. Later uses of the term denote religion's epistemological opposition to science. Richard Dawkins is the most popular

contemporary scientist who holds the conflict thesis. He clarifies the conflict thesis quite elementary; "it is completely unrealistic to claim, that religion keeps itself away from science's turf, restricting itself to morals and values. A universe with a supernatural presence would be a fundamentally and qualitatively different kind of universe from one without. The difference is, inescapably, a scientific difference. Religions make existence claims, and this means scientific claims" (Dawkins, R. 1998).

Interestingly, both Biblical literalism (flat-earthists and geocentrists) and scientific materialism (materialist evolutionism) fall into this typology. Our preliminary analysis suggests that science and religion are commonly conceived of as being contradictory on the CE-Groups.

The independence thesis treats each as quite separate realms of inquiry, mostly concluding that both are right in their own field and can peacefully co-exist. This model assumes that each is an independent, autonomous field of study or sphere of reality, with its own unique rules and language. Most well-known is Stephen Jay Gould's Non-Overlapping Magisteria (NOMA) (Gould, J. 1998). The magisterium of science covers the empirical realm: what the universe is made of (fact) and why does it work in this way (theory). The magisterium of religion extends over questions of ultimate meaning and moral value. As interpretations of experience, science is descriptive and religion is prescriptive. In our attempt to demarcate science from religion we have seen that although religion indeed tends to focus more on values and the supernatural, and science more on facts and the natural, it is hard define them as Non-Overlapping Magisteria – science and religion seem to have different perspectives on reality and look at different dimension of reality, but both their perspectives and interest areas do have some overlap.

The independence thesis as opposed to the conflict thesis has gained in popularity, especially in the previous century. Science in the Enlightenment and Colonial eras was conceived as an ontological investigation which uncovered 'facts' about physical nature. This was often explicitly opposed to Christian Theology and truth based on doctrine. This particular perspective on science faded in the early 20th century with the decline of logical empiricism and the rise of linguistic and sociological understandings of science. Modern scientists (including postmodern scientists) are less concerned with establishing universal or ontological truth and more inclined toward the creation of pragmatic, functional models of physical systems. Christian Theology has likewise softened many of its ontological claims, due to increased exposure to both scientific insights and the contrasting theological claims of other faiths.

Old Earth Creationists (Gap Creationism, Day-Age Creationism and Progressive Creationism) typically avoid the conflict between science and religion. They simply take certain compatible statements on ontological existence from both religion and science without changing the scientific or religious body of knowledge or going into other inconsistencies. Even though they hold the independence thesis, their stance does imply a conflict between their traditional religious belief and scientific consensus. Agnostic Evolutionism is more clearly based on the independence thesis. They explicitly state that science cannot tell much about the existence of anything supernatural. The independence thesis seems to be scarcely supported on the CE-Groups, probably because an online discussion is by definition an interchange, regardless of whether it is in the form of a 'conflict' or 'dialogue'. Why communicate about independent ideas?

The dialogue model looks for methodological parallels between science and religion. This thesis holds that each field has things to say to each other about phenomena in which their interests overlap. This view is getting more common in recent decades. The modern dialogue between religion and science is rooted in Ian Barbour's 1966 book 'Issues in Science and Religion' (Barbour, I. 1966). Since that time it has grown into a serious academic field, with academic chairs in the subject area, and two dedicated academic journals, Zygon: Journal of Religion & Science and Theology and Science. Articles are also sometimes found in mainstream science journals such as American Journal of Physics and Science. Recently philosopher Alvin Plantinga (2011) has argued that there is superficial conflict but deep concord between science and religion, and that there is superficial concord but deep conflict between science and naturalism. In the same line of thought, two physicists, Charles A. Coulson and Harold K. Schilling, both claimed that "the methods of science and religion have much in common". Schilling asserted that both fields (science and religion) have "a threefold structure of experience, theoretical interpretation, and practical application". Coulson asserted that science, like religion, "advances by creative imagination" and

not by "mere collecting of facts", while stating that religion should and does "involve critical reflection on experience not unlike that which goes on in science" (Barbour, I. 1968).

Theistic evolutionism and evolutionary creationism seem to be closest to the dialogue thesis, as they relate theistic ideas with scientific facts. Though the conflict thesis is dominant on the creation-evolution discussion groups in general, particular discussions seem to be in search for similarities, mostly on a philosophical -more abstract- level. Still, they are limited in their integration.

The integration thesis was hard to detect on the CE-Groups. This thesis holds that both fields can be unified into a single discourse. It is also known as the 'mutual support model'. All creation sciences (scientific creationism, neo-creationism, intelligent design) say to aim for integration. However, since they develop an own 'science' separate from the scientific community, some consider them to fall under the conflict thesis (since they perceive their theistic stance to be under threat by scientific consensus). Moreover, they generally focus merely on 'the origin' and do not attempt to integrate existing practices/methodologies. Pierre Teilhard de Chardin's Omega Point can be seen as a more fair method of integrating religion and science. The work of Sri Aurobindo, Don Beck, Jean Gebser, Robert Kegan also support the integration thesis, though their focus is on 'religious experience' and not so much on the integration of religion and science in general. Some theorists that are considered to do have a more inclusive approach to reality are Goethe, Schelling, Hegel, and Habermass. Many 'integral theorists' worked in dialogue with the scientific community, but developed their own discourse.

More recently, Integral Theory (Wilber, K. 2007) supports the integration thesis by 'mapping' how particular perspectives give rise to particular perceptions. Criticism from the scientific community is primarily directed to false ontological conclusions derived from Wilber's model, and not so much on the methodology (i.e. 'post-metaphysical pluralism') itself. Integral theory is not particularly a 'mutual support model' but a trans-metaphysical theory with a single discourse that also transcends and includes ('integrates') both science and religion. Although we use integral theory as a trans-metaphysical model, we do use it in the light of integrating the domain of science and religion.

Recapped, the religion-science relation generally seems to develop from conflict, to independence, to dialogue. While modern science was in conflict with pre-modern religion, the postmodern 'deconstruction' of both science and religion gave rise to a more pragmatic model for dialogue and integration.

The conflict-thesis, independence-thesis and dialogue-thesis are not only useful for understanding the relation between science and religion, but for understanding discussions in general. Each thesis carries particular metaphysical assumptions. A conflict thesis holds that there are *two ways* but *one truth*. When disputants discuss under the conflict thesis - whatever topic is under discussion – they assume that there are two opposing groups and that only one can be right, since there is one single objective truth. They generally hold a form of ontological monism: reality is matter (materialism), reality is mind (idealism), reality is spiritual (spiritualism), etc. An independence thesis holds that there are *two ways to two different truths* (ontological dualism). For example, they acknowledge both mind and matter but hold that these categories should be treated separately. It usually goes with a form of relativism; everybody is equally right. A dialogue thesis holds that there are *multiple ways to multiple realities*. Other than dualism, it is not relativistic because it does not automatically equals all practices and truths. Rather it interprets various approaches by connecting particular perspectives with particular perceptions, or 'a particular doing with a particular knowing'. The dialogue thesis usually goes with pluralism. It is not relativistic but pragmatic. All discussions, whatever topic is under discussion, are framed according the conflict thesis, independence thesis or dialogue thesis. This differentiation will be used for our framing-analysis.

## 1.3 Foundationalism: Empiricism, Rationalism and Relativism

*"This leads me to my second point learned here on talk origins.*

*That members aren't going to let something like circular logic get in their way."*

*(talk.origins Google Group)[iii]*

Although the online discussions are generally framed in terms of 'creationism vs. evolutionism' or 'religion vs. science', discussions actually display a range of arguments and ways of reasoning that cannot be put into a particular category. Arguments in favor of creationism are not inherently 'religious', and arguments in favor of evolutionism are not inherently 'scientific'. We thus analyzed the *arguments* and ways of *reasoning* on the CE-Groups as more fundamental and neutral epistemological differentiations, of which the results are presented in appendix 2.

In short, the arguments on the CE-Groups resemble the traditional arguments for and against the existence of God, indicating that most arguments are rooted in pure conceptual thinking about the metaphysics of reality. These arguments cannot said to be either true or false, only valid or invalid. And most of these arguments, whether for or against the existence of God, are indeed valid; their logical reasoning is coherent. For example, the theological, ontological and cosmological argument all have a version for and a version against the existence of God, which are equally valid. The reasoning is the same, but the starting principle is different. And this seems to be the case not only for arguments for and against the existence of God, but for many arguments concerning various topics on the online creation-evolution discussion groups.

Because opposing truth claim can be equally valid, many of the online arguments seem to be based on different 'first principles' or 'foundations', which cannot be falsified. This problem of not being able to test the validity or justification of arguments is called the 'infinite regress problem'. The infinite regress problem arises when we ask what the justifications are for the reasons themselves. Any proposition requires a justification, and any justification itself requires support. This means that any proposition can be 'infinitely' questioned, like a child who asks 'why?' over and over again. When no foundational answer is given because one answer directs the question back to an initial question, this is called 'circular logic', as referred to in the quote above. To solve the infinite regress problem, foundationalism poses that there are some beliefs that need no further 'regression' or that it is in fact impossible to question those beliefs. Different foundational beliefs have fundamentally different notions on what knowledge is and how to gain knowledge. It is any theory in epistemology (typically theories of justification, but also of knowledge) that holds that beliefs are justified based on what are called basic beliefs. The basic beliefs are said to be self-justifying or self-evident, that is, they enjoy a non-inferential justification. It is the bottom or the foundation of a reasoning. In this section we differentiate some of these basic beliefs, without claiming that these beliefs are indeed 'foundational', that is; without claiming that they really do not need inference and thus count as true basic beliefs. Foundational beliefs are generally dichotomized in rationalism (coupled with intuition, innatism, introspection, deduction, a priori knowledge, internalism, idealism) and empiricism (coupled with evidence, induction, a posteriori knowledge, externalism, realism). However, to really understand foundational beliefs we will walk through history to see various nuances and a tendency (or 'directionality') from pre-modern, modern and post-modern worldviews. We relate it to other epistemological concepts and ultimately show the basic metaphysical underpinnings in 1.3.4.

### 1.3.1 Rationalism

Rationalism is "any view appealing to reason as a source of knowledge or justification" (Lacey, A. 1996). In more technical terms, it is a method or a theory "in which the criterion of the truth is not sensory but

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intellectual and deductive" (Bourke, V. 1962). We can say that in pre-modern times, rationalism outweigh empiricism, but it was a specific form of rationalism. Many people did not believe that science and reason were valid ways of finding things out about the world and instead tended to rely on religion, mysticism, and tradition as valid sources of knowledge. Knowledge was innate, instigated by God, and therefore to be trusted. Sensory perception, on the other hand, could be deceiving. The visible world was considered to be a pale reflection of ultimate reality. Ultimate reality is known through the mind. This 'innatism' holds that we can have knowledge of certain propositions that seem to go beyond experience (or in fact; before experience – 'a priori'), either because of its universal applicability, or because its subject matter transcends experiential reality. Examples of the notions include ethical truths, the notion of causality, the notion of poisonous or psychedelic plants, notions of good and evil, logical and mathematical truths, and metaphysical notions concerning transcendent objects like God or souls. Hence, the common notion before the Age of Reason was that the mind can be trusted since ideas in the mind are innate – they correspond to an ultimate truth. This form of idealism claims that there is a higher reality, from which certain people can directly arrive at truth without needing to rely upon the senses, and that this higher reality is therefore the primary source of truth. Most philosophers say this view is based on rationalism since it is completely a priori. Others say it is the purest form of empiricism since *the perception of knowledge* is directly used without reasoning about it. The ontological argument for the existence of God is based on this epistemology; 'because I can perceive God, God exists'. The confusion about whether this *perception of knowledge* is either rationalism or empiricism will be explained and dissolved in the next chapter.

Since the Age of Reason, rationalism is usually associated with the introduction of mathematical methods into philosophy, as in Descartes, Leibniz, and Spinoza (Bourke, V. 1962). This is commonly called continental rationalism, because it was predominant in the continental schools of Europe, whereas in Britain empiricism dominated. Rationalism as a school of thought began with Descartes (1596-1650) whose work instigated the 'Age of Reason' a period that loosely covers the whole of the 17th Century. Knowledge was more critically (rationally) examined in this period. Rather than taking things in the mind as innate and real, the mind was critically examined in more objective terms. The mind was still the focus of attention, but philosophers began to distance themselves from their mind taking an objective (third-person) perspective. "Cogito ergo sum" (I think, therefore I am) is commonly associated with Descartes' theory, because he postulated that the only thing that he could not logically bring himself to doubt was his own existence. Though Descartes could doubt his senses, his body and the world around him, he could not deny his own existence, because he was able to doubt and must exist in order to do so. He thought that only knowledge of eternal truths – including the truths of mathematics, and the epistemological and metaphysical foundations of the sciences – could be attained by reason alone. Descartes is said to be an internalist, much more than a rationalist. He accepted the scientific method of empiricism but claimed that all knowledge-yielding conditions are within the psychological states of those who gain knowledge. Rationalism is thus generally coupled with idealism and internalism. Idealism is the philosophical theory which maintains that experience is ultimately based on mental activity. In the philosophy of perception, idealism is contrasted with realism, in which the external world is said to have an apparent absolute existence (epistemological opposition). In the philosophy of mind, idealism is the opposite of materialism, in which the ultimate nature of reality is based on physical substances (ontological opposition).


### 1.3.2 Empiricism

In response to the early-to-mid-17th century continental rationalism, John Locke (1632–1704) proposed in 'An Essay Concerning Human Understanding' (1689) a view wherein the only knowledge humans can have is a posteriori, i.e., based upon experience. Locke argued that nothing could be known before experience and that a baby was like a 'blank slate' that had to be filled in with information by experience – all knowledge comes from sensory input. It was thus based on externalism. Other important empiricists were Berkeley (1685-1753) and Hume (1711-1776). Berkeley in particular took Locke's idea further and argued that if all knowledge comes from perceptions which in turn create ideas then the only thing that we can really be sure about existing are the sensations or ideas themselves. Berkeley's approach to empiricism would later come to be called subjective idealism. Subjective idealism is a metaphysical theory which reduces physical objects to perceiving minds. From the point of view of subjective idealism, the

objective world independent of man does not exist; it is the product of man's subjective cognitive abilities, sensations, and perceptions. The Scottish philosopher David Hume (1711–1776) responded to Berkeley's criticisms of Locke, as well to other differences between early modern philosophers, and moved empiricism to a new level of 'scepticism'. This led to the foundation of the scientific method based on empiricism.

Since the 17th century, reason has often been taken to be a subjective (interior) faculty, or rather the unaided ability (pure reason) to form concepts. For Descartes, Spinoza and Leibniz, this was associated with mathematics. Kant attempted to show that pure reason could form concepts (time and space) that are the conditions of experience. Kant made his argument in opposition to Hume, who denied that reason had any role to play in experience. Hence, both rationalism and empiricism became important in the scientific method, and partly converged.

### 1.3.3 Relativism

Both rationalism and empiricism are individualist theories of knowledge and do not deal with the social context. In the post-modern era (late 20th century), the sociological concept of knowledge became more prominent, in the form of historicism, and more abstractly speaking, in the form of relativism. Both rationalism and empiricism, both realism and idealism, and both internalism and externalism were rejected by this movement because they held that no absolute truth exists. All truth claims were just socially embedded perspectives (social constructionism). Postmodern philosophy was thus sceptical or nihilistic toward many of the values and assumptions derived from modernity, especially toward simple binary oppositions characteristic of structuralism. This new philosophy can be best signified by three movements in 20th century: post-structuralism, deconstructionism, and social constructionism. As a theory of knowledge, historicism grew out of the postmodern philosophy which was hermeneutical and relativist in nature. It was hermeneutical, because it placed great importance on cautious, rigorous and contextualized interpretation of information. It was relativist, because it rejected notions of universal, fundamental and absolute interpretations. As a result, the great narratives (whether it was in religion, politics or in various forms of scientific absolutism) were heavily criticized and lost their value. Knowledge was not so much seen as something that could be attained by either rationalism or empiricism, but as a mere social construct. To know 'this knowledge' (rather than reality), it had to be 'deconstructed'; a popular post-modern method.

### 1.3.4 Metaphysical underpinnings

Recapped, pre-modern rationalism is characterized by innate knowledge and introspection and is based on the metaphysics of early objective idealism. This idealism maintains that reality consists of ideal, immaterial forms existing outside the mind and that the material world is merely a pale reflection of the ideal (spiritual) world.

Modern rationalism is characterized by logic and reason and is based on subjective idealism. This idealism maintains that reality exists only in the mind and that what are known as physical objects have no existence outside the mind. Hegel (1770-1831) maintained that much of what is real lies outside the mind and that the individual human mind is only a fragment of the absolute, or the all-embracing realm of Spirit. Hegel further contended that the world must be an intelligible system in order to be understood. His central doctrine is that 'the real is rational', or that the world is a logical system and philosophy is the attempt by the human mind to understand it.

Empiricism is actually apparent throughout the entire human history but gain significant support in the Age of Enlightenment. Rather than looking inside the human mind, people turned outward to observe (and measure) the world. Sensory perception was more important than what appeared in the mind – 'if it is real, show it to me'. The metaphysical implications of empiricism are closely related to realism and/or materialism.

Both empiricism and rationalism see knowledge as created by an individual. In post-modern thinking, knowledge was seen as a social construct, and was 'deconstructed' into relative non-metaphysical (pragmatic, dialectic) theories. This also meant a shift from positivism to relativism or interpretavism.

In conclusion, foundational beliefs have different notions on what knowledge is (innate, build by reason, build by sensory perception, build in social context) and how we can come to true knowledge (introspection, logic and reason, empiricism, deconstruction). Roughly, we have distinguished rationalism (most prominent in pre-modern and modern thinking), empiricism (most prominent in modern thinking) and relativism (most prominent in post-modern thinking), each having an own metaphysical understanding of reality. The most significant metaphysical oppositions are 1) atomism (individual) vs. wholism (social), 2) materialism vs. idealism, 3) realism vs. idealism and 4) absolutism vs. relativism. The first two focus on a certain dimension of reality and neglect the other half of reality (ontological claims), the latter two deal with the extent to which the world can be known or accurately represented by knowledge (epistemological claims). To accommodate all perspectives in the creation-evolution debate we need to integrate the first two into a trans-metaphysical framework.


## 1.4 Summary and Conclusion


We now have a comprehensive understanding of the debate on various levels of abstraction, ranging from actual standpoints in the debate to foundational beliefs. Recapped, we have seen that the creation-evolution controversy covers are range of possible stances concerning the origin of life, from biblical literalism to materialistic evolutionism (1.1). The most salient question that the continuum brought about was whether the relation between religion and science is characterized by conflict or by concord. In our attempt to demarcate science from religion (1.2) we realized that the creation-evolution controversy is not so much a controversy between science and religious belief but rather a controversy based on more abstract metaphysical worldviews. By analysing the various arguments in the debate on the origins, we found various ways of reasoning (appendix 2). Ultimately, we saw that opposing truth claims were equally valid, and discovered that there were different 'first principles' or 'foundations' on which the arguments were based, which could not be falsified (rationally or empirically). Three main foundational beliefs were distinguished; rationalism, empiricism and relativism (1.3), each having an own metaphysical understanding (atomism/wholism, materialism/idealism).

In this chapter we have differentiated the debate in various ways, resulting in different kinds of 'categorizations'. However, for our framing-analysis it is impossible to take into account all these different categorizations all together. We must find a common denomination; a concept that incorporates the variety of perceptions and yet illustrates the main differences between these perceptions. In other words, we need one pair of glasses to look at the debate which 'transcends and includes' (i.e. 'integrates') the various differentiations. We have seen that our categorizations clearly have a relation, but exactly how they are related is largely ungraspable if they are not integrated into a single framework. Such a framework needs to be trans-metaphysical (it cannot contain metaphysical notions itself) for two reasons. First, to be able to include all categorizations it has to have an *abstract* character. Second, the foundational beliefs which are so fundamental in the creation-evolution controversy each bring an own metaphysical understanding, which can only be accommodated in a *neutral* model; a model that does not entail a specific metaphysical presupposition itself.

In the next chapter, we integrate the various epistemological differentiations into one model that will be used to make sense of the ideological dimension of the discussion.

## 2. Integral Framework of Worlds and Words

We will now use the integral framework to bring together the differentiations of the previous chapter, and thus the various world-views in the debate. We have differentiated; science from religion; the multiple interpretations of how science and religion relate (conflict, independence, dialogue, integral), and; foundational beliefs (rationalism, empiricism, relativism). These foundational beliefs, which seem to be fundamental in the creation-evolution controversy, have incompatible metaphysical underpinnings (atomism/wholism, materialism/idealism). To overcome this metaphysical incompatibility and integrate the diverse epistemological differentiations into a single framework, we transcend the level of perceptions to see how all perceptions arise from *perspectives*. The integral framework maps these perspectives in one model and indicates how a particular perspective can lead to a particular 'understanding of the world' (epistemologically) or a particular 'meaning of a word' (semantically). By explaining the various meanings of 'science' and 'religion' from the integral framework, we inherently accommodate the various understandings of the world ('world-views'). This move from epistemology to semantics, from worlds to words, provides a more pragmatic model useful for our framing-analysis.

Semantics studies the multiple meanings of words and is often used to clarify a problem of mutual understanding. The problem of mutual understanding occurs not only because people understand 'the world' differently, but also -and inherently- because people understand 'words' differently. Words are not labels stuck on things or 'referents', but signifiers that signify diverse subjective realties or 'signifieds'. We can say that 'religion' is something in the external world that is understood differently by different people (epistemologically), but also that 'religion' is a word that means different things to different people (semantically). In this chapter, we will abstain from this philosophical divide between epistemology and semantics (which is a matter of interpretation) and use the integral framework to elucidate the epistemic/semantic 'fits' and 'misfits' of the creation-evolution controversy in order to reveal the potential problems of mutual understanding/meaning in the discussion.

First, in '2.1 Integral Theory', we explain the theory that is behind the integral framework and how we use this to make sense of various world-views/semantics. Essentially, integral theory transcends metaphysics by showing that particular perceptions arise from particular perspectives – what you see depends on how you look.

In the subsequent paragraphs, '2.2 Integral Science', '2.3 Integral Religion', and '2.4 Integration of Domains, Practices and Levels', we apply the framework to integrate the epistemological categories discussed in the previous chapter. We explain the various meanings of 'science' and 'religion' from the integral framework and thereby map the possible ways of looking at the world. We use the 'science-religion frame' because the various meanings of these terms cover the entire integral framework and thus include all 'world-views', and because it is the most common frame on internet discussion groups, allowing us to examine how different ideological-categories understand these terms.

This chapter shows the theoretic connection between interior perceptions and trans-metaphysical perspectives. The results of this chapter are theoretical (1) and applied (2). First, it results in a theoretical framework that shows how perceptions in general (diverse subjective perceptions of a word or the world) can be conceptualized and integrated, which is used for the interpretation of words (methodologically) and the accommodation of world-views (theoretically). Second, this framework is applied to make sense of the epistemological differentiations of the creation-evolution controversy, which is used in the issue-framing analysis, particularly in 4.2 for analysing the various meanings of 'science' and 'religion' to the ideological categories (semantically), and for examining how the ideological categories relate (epistemologically).

## 2.1 Integral Theory

A word, such as 'spiritual', means different things to different people. So how then, can we say anything about the signified (interior perception) by the observation of signifiers (exterior words)? How can we write about world-views, when the words that are used to express these worlds mean different things to different people? Who's language, and who's metaphysics are we to use? With what words, and within what world-view are we to describe frames? How do we distinguish frames, and how do we know what is outside the frame if we can only observe what is framed (i.e. inside the frame)?

In order to make sense of the different meanings of a word (semantics), or different understanding of the world (world-views), we need a kind of 'trans-metaphysical language'. Integral theory offers such language and provides a framework that allows us to anchor or accommodate the diverse perceptions. A particular meaning of a word, or a particular understanding of the world, derives from a particular perspective, and integral theory maps these perspectives. Although the 'mapping' of perceptions is still an interpretive process, the map allows us to integrate various semantics (languages) and epistemologies (world-views) and show how they relate.

Before we can integrate the various differentiations made in the previous chapter, we need a more thorough understanding of integral theory. In '2.1.1 Trans-Metaphysical Theory: Four Quadrants' we go into the underpinning philosophy of integral theory and explain the foundation of the four quadrants. In '2.1.2 Integral Methodological Pluralism' we turn the four quadrants into eight 'zones' or 'methodologies' by adding the inside/outside perspective of each quadrant. In '2.1.3 Integral Map' we extend the integral model by introducing levels, lines, states and types to make sense of the different understandings of 'the world' or 'words'. Integral theory is used in this chapter to map various meanings of words (semantics) and understandings of the world (world-views).

### 2.1.1 Trans-Metaphysical Theory: Four Quadrants

Before we use integral theory to integrate various understandings, its philosophical underpinnings need to be understood. This will elucidate why integral theory is trans-metaphysical and thus how we can integrate various foundational beliefs (empiricism, rationalism, relativism) and metaphysical underpinnings (idealism/materialism and atomism/wholism).

The notion that everything has interior and exterior dimension, and is a whole as well as part of a larger whole - which is the foundation of the quadrant model - is based on the concept of holons: of wholes that are part of other wholes indefinitely. A holon can literally be any thinkable phenomenon or event, whether it is material (particles) or immaterial (energy). This is why integral theory is trans-metaphysical; it avoids postulating pre-existing ontological structures. Every phenomenon can be seen as a holon; as something which is a *part* of a whole, but simultaneously a *whole* itself (containing parts). Whole atoms are parts of molecules; whole molecules are part of cells; whole cells are part of organisms; and so we are wholes ourselves but also parts of society or the ecosystem - we are holons. In the same way, letters are part of words, and words are part of sentences. This way of thinking is based on system-thinking. Each system is simultaneously a subsystem and a suprasystem. Each whole is simultaneously a part, a whole/part; a holon (see fig 2.1.1 top).

This approach transcends and includes (integrates) two fundamental binary opposites; atomism/wholism and materialism/idealism. These two opposites seem fundamental in the creation-evolution controversy (see fig 2.1.1 bottom). Firstly, holons are singular wholes (atomism, individualism) but also part of larger wholes (wholism, collectivism). Secondly, holons have an interior dimension (idealism) and exterior dimension (materialism).

First, because reality is composed of holons, not wholes; *atomism* is 'false'. Atomism holds that all things are fundamentally independent isolated and individual wholes that interact only by chance. This stance is represented by individualism in political philosophy; humans are independent wholes. However, because reality is neither composed of parts; *wholism* is also 'false'. Wholism holds that all things are merely

strands or parts of the larger web or whole. This stance is represented by collectivism in political philosophy; humans are parts. Both are 'false' in the sense that they do not contain all of reality; they are partial perspectives. Reality is not composed of parts or wholes, but only of whole/parts; of holons. From a plural perspective holons are parts, from a singular perspective holons are wholes. So from the collective (plural) perspective humans are parts, but from the individual (singular) perspective humans are wholes. And so we are not just small parts determined by a larger whole for a bigger goal, but neither are we separate autonomous wholes independent from the universe. And so we do not make society (*agency*), but neither does society make us (*structuralism*). It's a two-way road and both positions just offer different *perspectives*. And so knowledge is not just an individual construct (singular), but neither is knowledge just a social construct (plural). From the plural perspective humans are part of a social system and knowledge is socially constructed (relativism, social constructionism), from a singular perspective humans are individuals and knowledge is obtained by seeing (empiricism), or thinking/feeling (rationalism).

Second, because reality is composed of holons - not of quarks, or bootstrapping hadrons, or subatomic exchange (material), but neither of ideas, symbols, or thoughts (immaterial) - both *materialism* and *idealism* are 'false', or at least 'partial'. From an interior perspective holons are immaterial and humans are seen in terms of culture or consciousness, from an exterior perspective holons are material and humans are seen as an organism or part of systems (such as the ecosystem). And so our consciousness does not direct neurological activity or the body, but nor do our cells or neurons direct our consciousness. They are just different *perspectives* on the same reality. Mind and matter are two sides of the same coin.
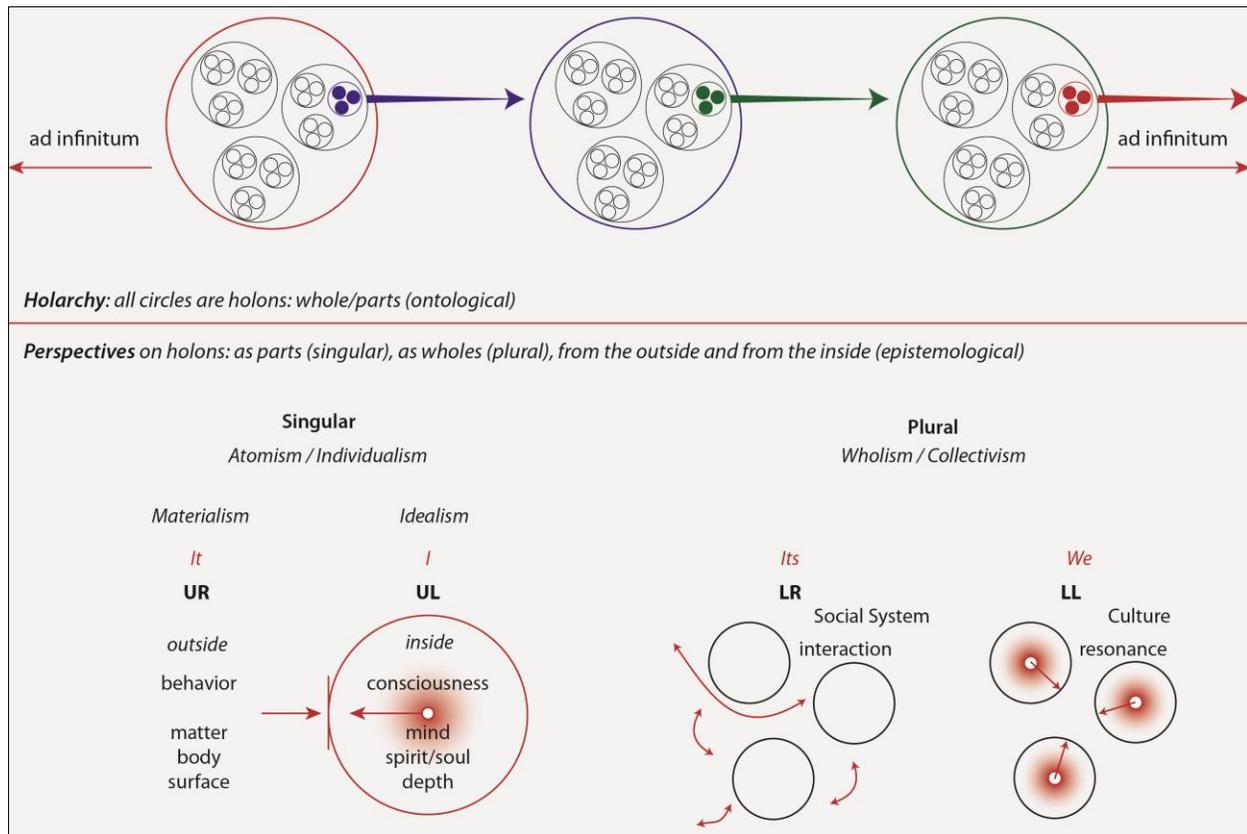


Fig 2.1.1 Holarchy *(top)* and Perspectives on holons *(bottom),* (Tim Stevens, 2011)

This is why integral theory starts from the simple recognition that everything can be viewed: 1) in its interior and exterior dimension, and 2) as singular whole or plural parts. To have only an interior perspective, would be to view reality only from the Left-Half of the model (idealism); to have only and exterior perspective, would be to view reality only from the Right-Half of the model (materialism); to have only a plural perspective, would be to view reality only from the Lower-Half of the model (wholism); to

have only a singular perspective, would be to view reality only from the Upper-Half of the model (atomism).

This theory allows us to integrate (transcend and include) the epistemic indeterminacy pointed out in 1.3 between atomism (individual) versus wholism (social), and materialism versus idealism, and leave the quest whether some knowledge is 'really real' (which is the central concern in realism/idealism and absolutism/relativism controversies). We acknowledge all perspectives; the mind making the material, the material making the mind, the whole defining the parts, the parts making the whole. More explicitly, we can accommodate 1) the idea that knowledge is socially constructed (post-modernism, relativism) as well as individual theories of knowledge, and 2) the idea that reality is material (empiricism, materialism) as well as the idea that reality is in our minds (rationalism, idealism).

There is not just a difference between materialists vs. idealists (ontological) and empiricists vs. rationalists (epistemological), but also a difference in how people interpret the relation between these practices and realities. This type of differentiation define three categories; monism, dualism, and pluralism. Monists hold that there is only one single objective truth - reality is material (materialism), reality is mind (idealism), reality is spiritual (spiritualism) - and are in conflict with each other. Dualists acknowledge both sides, but hold that two independent ways lead to two independent truths (tends to be relativistic). Pluralists interpret various approaches by connecting particular perspectives with particular perceptions, or 'a particular doing with a particular knowing' (tends to be pragmatic).

### 2.1.2 Integral Methodological Pluralism: Eight Zones

The first two divisions in the post-metaphysical theory, interior/exterior and singular/plural, make the four quadrants. A third division, inside and outside, differentiates these four fundamental quadrant-dimensions into eight primordial perspectives: the inside and the outside view of a holon in any of the 4 quadrants (see Fig. 2.1.1). These eight perspectives bring eight phenomenological '(hori-)zones' into being. A zone is not an objective piece of reality, but a touch of holons (a relation), engendering an experiential disclosure of reality (a perception as part of the subject's enacted perspective). Whereas the interior/exterior, and singular/plural perspectives bring four worlds or 'realities' into being (everything, every holon, has an interior and exterior irrespective of the subject of consciousness), the eight zones represent the enactment or experience of these worlds by a particular subject of consciousness (a phenomenological worldspace). Hence, whereas the four quadrants are about reality domains (ontology), the eight zones are about the way reality, or a particular reality domain, can be known (epistemology).



Figure 2.1.2 Horizones from Wilber (2007), as zones with pronouns (left) and methodologies (right) (Tim Stevens, 2012)

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If you imagine any of the phenomena (or holons) in the various quadrants, you can look at them from their own inside or outside, i.e.: from a 1$^{st}$ or 3$^{rd}$ person perspective. For example, you can know your 'I' by acquaintance as the subjective felt-experience (inside UL) as well as by observing your mind (outside UL). Whereas interior and exterior distinguish two reality dimensions, inside and o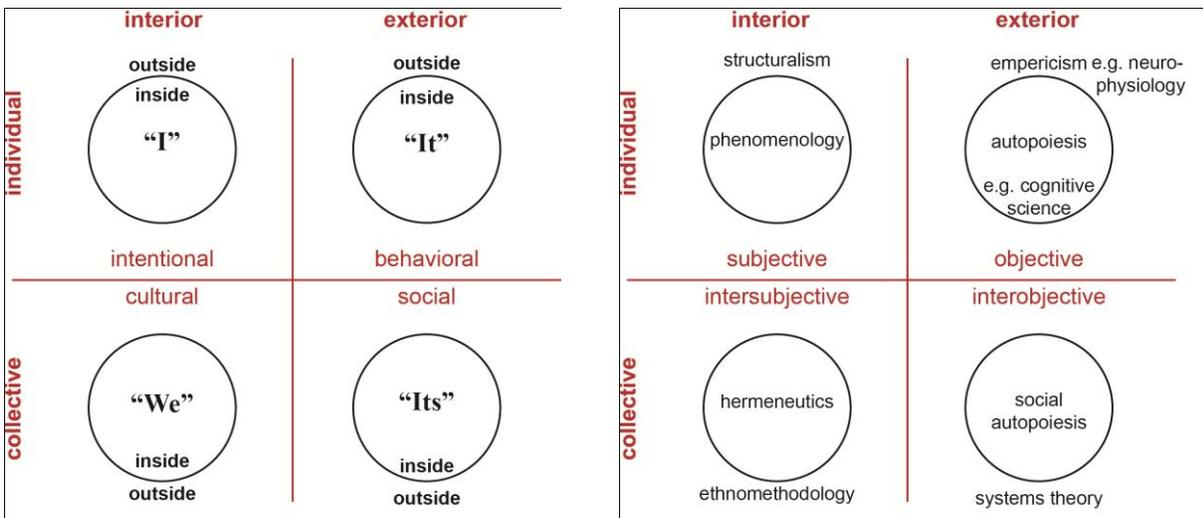utside distinguish the subjective and objective approach of these dimensions. Interestingly, the eight zones become apparent through our modes of consciousness, through the personal pronouns in our language and through the various methodologies that humanity has developed to explore reality, revealing the relation between our mind, language and the world. Because the aim of this chapter is to map the various world-views through clarifying the various understandings of science and religion, we will explore the zones as manifested by methodologies and see how they relate to science and religion in the next paragraphs.

All eight perspectives have ('scientific'-) methodological correlates: You can not only take a view, you can act from it. Hence, from all eight perspectives, methodologies have developed practices, injunctions, and techniques to gain reproducible knowledge (or verifiable repeatable experiences), building an own 'paradigm'. When all methodologies are taken into account, this is referred to as 'integral methodological pluralism'. The eight methodological families are; Phenomenology, which directly explores experience (the insides of individual interiors); Structuralism, which explores formal patterns of direct experience (the outsides of individual interiors); Autopoiesis Theory, which explores self-regulating behavior (the insides of individual exteriors); Empiricism, which explores observable behaviors (the outsides of individual exteriors); Social Autopoiesis Theory, which explores self-regulating dynamics in systems (the insides of collective exteriors); System Theory, which explores the functional fit of parts within an observable whole (outsides of collective exteriors); Hermeneutics, which explores intersubjective understanding (the insides of collective interiors); and Ethnomethodology, which explores formal patters of mutual understanding (the outsides of collective interiors).

Interestingly, people differ in their opinion on what methodologies can be called 'scientific'. Hermeneutics for example, was traditionally a religious paradigm to define principles of interpretation for the Bible, but is now considered the study of the interpretation of written text in general, and is thus commonly put under social philosophy or social science. And a subjective report (first-person perspective) on the inside of interior reality ('phenomenology') can be considered as science when certain methodological criteria are met, but also seems to be the focus of religion. Religion tends to concentrate on the felt-experience of spirit, soul and mind (the depth of interiority), rather than on the observation of the body or matter (the surface of the exterior). In the next paragraph we explore these different understandings or meanings of science and religion in greater detail.

### 2.1.3 Integral Map and Semantics

The four quadrants create the basic structure of the integral framework, but this is not sufficient for understanding the various epistemic and/or semantic differences in the debate. To have a truly comprehensive map or meta-model of reality, we need to introduce four more elements: levels, lines, states and types. These elements further help to make sense of the various understandings of 'the world' or 'words'. Together with the quadrants these are the five irreducible categories of Wilber's model of manifest existence. It is called AQAL (which connotes: all quadrants, all levels, all lines, all states, all types), the 'Integral Operating System' (IOS), or simply 'The Integral Map' (we use this term).

*Levels* (sometimes referred to as *'Stages'*) are the levels of complexity within each dimension, such as levels of cognitive development, morals or self-sense in the UL-quadrant. For example, in Maslow's hierarchy of needs one grows from basic needs (survival), safety needs (comfort), psychological needs, to self-actualization and self-realization. In the LR-quadrant there are developmental stages in worldviews, or 'normative structures', such as from egocentric or self-centered (preconventional), to ethnocentric or group-centered (conventional), to worldcentric or global-centered (postconventional) stages. In the UR-quadrant the most simple example is the increasing complexity of material structures from atoms, molecules, organs and organisms subsequently. Each new level or stage transcends and includes ('integrates') the previous stages: organisms include molecules and atoms, just as people who develop in

post-egocentric stages *have* an ego but do not identify with it (transcends and includes the ego). Levels or stages are represented by the blue circles in figure 2.1.3A. In figure 2.1.3B Maslow's hierarchy of needs in the UL-quadrant is taken as an example. At the center of the model (small circles) there are earlier and lower (less complex) forms of development, whether you apply the model to 'personal development' or 'biological evolution'.

*Lines* are the various capacities that develop through each of these levels of complexity, such as multiple intelligences in the UL-quadrant (e.g. linguistic-, kinesthetic-, interpersonal-, spiritual intelligence). Each type of intelligence can be seen as a separate line within the UL-quadrant, so that a high linguistic intelligence and a low interpersonal intelligence within one person can coexist. Lines are represented by the green lines in figure 2.1.3A. In figure 2.1.3B linguistics intelligence and emotional intelligence (just two of the multiple lines of intelligence) are taken as an example in the UL-quadrant.
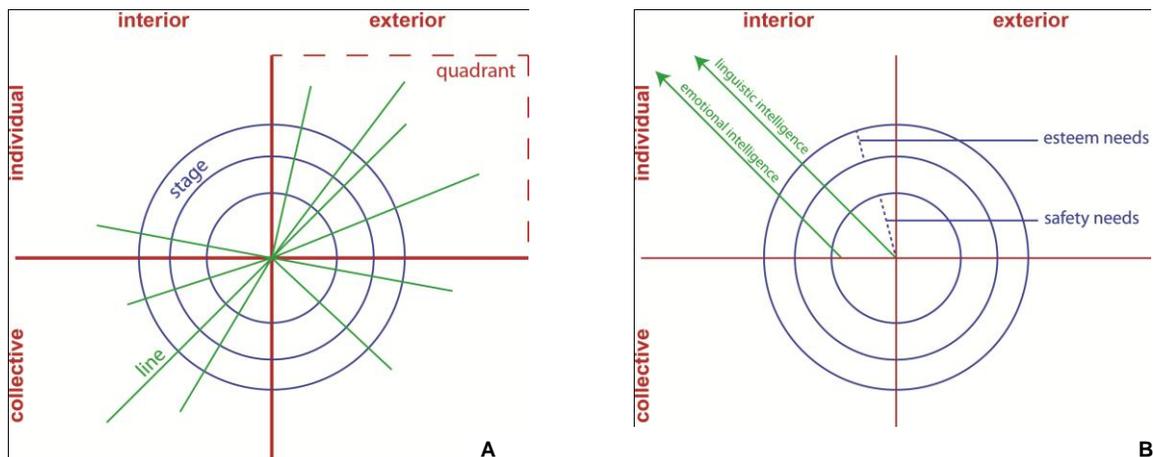


Figure 2.1.3 Integral Map from Wilber (2007)
(Tim Stevens, 2012)

In our study, quadrants, lines and levels (stages) make up the three most important elements of the integral map, but an integral approach also includes states and types. *States* are the temporary occurrences of any aspect of reality within the four quadrants, such as states of consciousness in the UL-quadrant (e.g. sleeping, dreaming, waking). *Types* are the variety of styles that aspects of reality assume in the various domains, such as male and female.

Disputants understand 'the world' or 'words' differently, and the integral map is used to indicate these differences. For example, the word 'spiritual', can mean a quadrant or domain (the interior or 'esoteric'), a level (pre-rational or post-rational stage of personal development), a line (spiritual intelligence), a state (meditative state) and a type (a spiritual type of person). By searching on 'spiritual' on the CE-Groups and reading the various posts, we found that it is often difficult to extricate what disputants mean when they are using the word 'spiritual'. The following quotes from the CE-Groups indicate the various meanings of spiritual, understood from integral theory.

Spiritual as non-physical or immaterial *dimension (interior quadrants, left-half)*:
*"Since the spiritual is not material, concepts like space and time are rather meaningless."* (talk.origins, Google Groups)[iv]

Spiritual as a (pre-rational) *stage*:
*"I think our present preoccupation with things "spiritual" simply reflects a yearning to return to the animal state. Back to the days when our reptilian brains focused on the here and now, when we had that sense of oneness with the universe that other creatures presumably enjoy."* (talk.origins, Google Groups)[v]

Spiritual as a *line* of development:
*"For your info only hindus have the attitude that whatever method you seek for the search of god for everyone in this world is on a different mental and spiritual level"* (Atheism vs Christianity, Google Groups)[vi]

Spiritual as a *state*:
"*And religion and spirituality is no theory, but rather faith. Faith should never be taught, but rather experienced.* (alt.religion.christianity, Google Groups)[vii]

Spiritual as a *type*:
*"Some atheists are \*very\* spiritual people, and some are not, just as some theists are very spiritual people while others are not. Spirituality, fortunately, isn't dependent upon belief in supernatural beings."* (alt.atheism, Google Groups)[viii]

The father of general semantics, Korzybski, famously stated "a map is not the territory it represents, but if correct, it has a similar structure to the territory, which accounts for its usefulness". This also applies to the integral map: it has a similar structure as reality and thus allows us to 'map', 'anchor' or 'accommodate' how people make sense of the world, but it is trans-metaphysical and thus indicates *perceptions of reality,* not reality itself. In line with Krishnamurti "the description is not the described" (), one could say from the field of linguistics that a signifier is not the referent, and one could say from the field of epistemology that a thought is not the thing. Hence, the signifier 'spiritual', *refers* to different 'things' for different people, and/or *signifies* different 'thoughts' within different people. The integral map just displays what the word 'spiritual' refers to in a particular case. All meanings of the word 'spiritual' are valid in their own way and there is no ultimate reality about what 'spiritual' refers to, and thus no ultimate definition. And this applies to all words. This provides us with a theoretical framework that shows how perceptions in general (diverse subjective perceptions of a word or the world) can be conceptualized and integrated, which is used in this research for the interpretation of words (methodologically) and the accommodation of world-views (theoretically).

In this chapter we will apply this framework for understanding the problem of mutual understanding of the creation-evolution controversy and integrate the epistemological differentiations of the previous chapter. We integrate the various world-views by showing the various meanings of 'science' and 'religion', but abstain from defining the different perceptions as either a difference in the 'meaning of words' (semantic problem of 'translation/communication' in the intersubjective realm) or an 'understanding of the world' (epistemic problem of 'world-views/phenomenology' in the subjective realm). Hence, we elaborate the meaning of 'science' and 'religion' but use this to illustrate the problem of mutual understanding in this debate in general.

### 2.1.4 Summary and Conclusion

In this paragraph we first explained the philosophical underpinnings of the four quadrants to elucidate why integral theory is trans-metaphysical and allows us to integrate the diverse foundational beliefs (empiricism, rationalism, relativism) and metaphysical underpinnings (idealism/materialism and atomism/wholism). The four quadrants or dimensions can be experienced from a subjective or objective perspective, creating eight phenomenological hori-zones (a perception as part of the subject's enacted perspective) which have methodological correlates. We ended this paragraph by extending the integral map with levels, lines, states and types. Together, these elements cover the rudimentary ways for understanding the world, and/or a word (e.g. 'spiritual'). This provides us with a theoretical framework that shows how perceptions in general (diverse subjective perceptions of a word or the world) can be conceptualized and integrated.

These elements of the integral framework will now be used to explain the various meanings of both 'science' and 'religion'. The various meanings of these words take into account the epistemological differentiations of the previous chapter and show the elementary ways in which the world can be understood or 'seen' ('world-views'). 'Integration' does not mean 'fusion to unity' but an all-inclusive comprehension that indicates both 'fits' and 'misfits'. We just use a common denomination (perspectives) for comprehending and accommodating diverse perceptions (differences between words and/or worlds).

## 2.2 Integral Science

In the previous chapter we concluded that there was no consensus on what is meant by 'science'. There are projects for which the criterion of success involves producing true theories; there are projects where the criterion of success involves producing theories that are empirically adequate; there are projects controlled by methodological naturalism, and; there are other projects, such as phenomenology and hermeneutics, which focus on the subjective domain of reality. Realists, empiricists, logical positivists, idealists, falsificationists, etc. all have different opinions about what constitutes true 'science'.

The method for producing knowledge is thus most heavily discussed in demarcating science. However, a method also implies a reality domain. To put is simply; what you see depends on how you look. As such, one argument for demarcating science from religion is to state that science does not make morality claims. Another argument for demarcating science from religion is to argue that science does not make claims about the supernatural or metaphysical. These arguments do not focus on the scientific method per se but on the scientific area or 'the field of study', and thus a reality domain, such as in the theory of Non-Overlapping Magisteria.

In this paragraph we will not provide some ultimate definitions of science. Rather, we will accommodate the various notions on science. As we will demonstrate, science can be framed as investigating a certain data-domain (5.2.1), such as the Right-Hand quadrants. Science can also be framed along a continuum from narrow empiricism to broad or deep empiricism, focusing on its practice or method (5.2.2). Moreover, science can be framed as a level of understanding (5.2.3), such as the rational world-view. We will accommodate the various meanings of 'science' in an integral understanding.

### 2.2.1 Domains of Science

Definitions of science differ most significantly among various science categories, such as the hard sciences, the soft sciences, hermeneutics and phenomenology. Some people recognize only the hard sciences as 'science', while others also acknowledge phenomenology as science. These science categories differ particularly in the domain or zone that they study.

*Hard Sciences*

*"Scientific investigation is either the exclusive path to knowledge or at least by far the most reliable path, and it takes only natural or material phenomena to be real. In other words, what science can't study, the immaterial, is effectively unreal."* (talk.origins Google Groups)[ix]

Science often means those disciplines that study the outsides of exterior phenomena associated with the Right-Hand quadrants: for example, physics, chemistry, biology, and neurology in the UR and ecology, geology, astronomy, and systems theory in the LR. In all these cases the objects of investigation are the *outsides* of *exterior* phenomena described from a *third-person* perspective, which can be represented by 3p x 3p x 3p. In sequence, this notation indicates; a third-person perspective (objective), to the outside of an exterior. Similarly, disciplines such as cognitive science and social autopoiesis are concerned with describing exteriors – providing complex maps of the '*view from inside*' (3p x *1p* x 3p). All these approaches are often labeled as 'hard sciences', because they all describe exteriors - insides and outsides -, from a third-person perspective: sciences of exteriors (Right-Half). The life sciences typically focus on a particular higher *level of complexity* (the blue stages in figure 5.1a): namely, biology dealing with life as opposed to physics dealing with matter. Similarly, the social sciences, such as economics, generally focus on the level of human complexity in the LR quadrant.

*Soft Sciences*

This disputant holds that science is defined by the scientific method, which can be applied to the interior or immaterial domain as well. He includes interiority, but excludes subjectivity from science. This is basically what happens when we move to the soft sciences; sciences of interiors that focus on the Left-Hand quadrants from a third-person perspective. For example, there are those disciplines that focus on the UL, such as developmental psychology and developmental structuralism, and those that focus on the LL, such as ethnomethodology and cultural anthropology. These approaches describe the outside of interiors from a vantage-point (3p x 3p x 1p). Presumably, their study of outsides (3p) of interiors from a third-person perspective (3p) is what constitutes a 'soft' scientific approach. They are not soft in their commitment to third-person description or in their investigations of outsides. Rather, they have been labeled 'soft' because they investigate interiors (1p), which do not manifest directly in the sensorimotor world. So while the hard sciences examine exteriors from a third-person perspective, the soft sciences examine interiors from a third-person perspective. They are all 'scientific' according to proponents of the soft sciences, because they all examine objects using thirds person descriptors and focus on those objects' outsides. For 'hard scientists', it is not enough to provide a third-person perspective, even if it is of the outside of phenomena; one must investigate exteriors – not interiors.
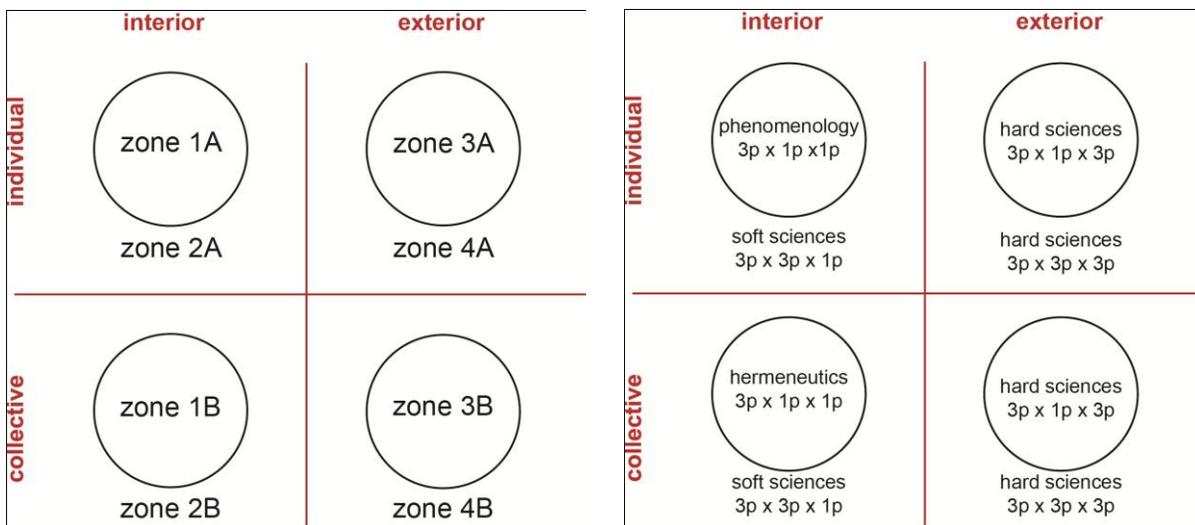


Figure 2.2.1. Wilber's zones (left), integral methodological pluralism (right) (Tim Stevens, 2012)

*Phenomenology and Hermeneutics*

This disputant holds that science can also study subjective experience or the first-person perspective. This type of science is concerned with the insides of interiors. Hermeneutics, often defined as the 'science of interpretation', studies the intersubjective LL-quadrant. Traditional hermeneutics—which includes Biblical hermeneutics—refers to the study of the interpretation of written texts, especially texts in the areas of literature, religion and law (the subjective perspective on the intersubjective). Phenomenology studies

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'the inside' of subjective experience; the UL-quadrant. The founder of phenomenology, Edmund Husserl (1970), was deeply committed to science, and wanted to provide a methodology for disclosing the essential structures of experience, including what is experienced and how it is experienced. These disciplines study - which is a third-person objective perspective - the first-person perspectives (the inside) of interiors in both individuals and collectives (3p x 1p x 1p). Unlike the other sciences, hermeneutics and phenomenology are concerned with the first-person perspective, and not a third-person perspective, which is often considered the hallmark of science – hard to soft, exterior or interior. Subjective phenomena, are not objectified to third-person descriptions (as in the soft sciences), but studied in their subjective ground: experiences are studied as experiences, and are not objectified into non-experiential terms. However, subjective experiences and texts are analyzed 'objectively' - by a third person -, according certain principles, which to some makes these disciplines 'scientific'. If people include them as scientific enterprises, then they do so based on criteria other than the use of a direct third-person perspective. These 'criteria' (of the scientific method) will be dealt with in the next part.

In conclusion, the meaning of science, understood as the inquiry of a domain, ranges from the study of 'outside of exteriors', to the study of 'outside of interiors', to including the study of 'inside interiors'. Common to these disciplines is their objective (third person) perspective on these zones. Science can thus also be understood to make 'objective truth claims' and not 'subjective value claims', regardless of the domain of inquiry. From this point of view, subjectivity can be studied, but science must study this from an objective third-person stance and provide 'truth claims' – facts rather than opinions. Hence, science can be seen as concerned with 'objective truth' and not with 'morals' or the 'personal meaningful' (Plato's 'truth', and not 'the good' or 'the beautiful'). This is not a metaphysical differentiation of reality domains, but a differentiation of concern or perspective (not *what* you see, but *how* you see it)


### 2.2.2 Practice of Science: Empiricism and Rationalism


Science can also be seen in terms of its practice. Generally, when science is seen as a practice, it can be framed as 1) a systemic enterprise ('the scientific method') in which procedures are discussed, or 2) as an experiential approach in which the role of empiricism (seeing) and rationalism (thinking/feeling) is discussed. The first is specifically 'methodological', while the second is more broadly 'epistemological' (how individual people can gain knowledge). We briefly touch upon the first frame but then focus on the second frame because our preliminary framing-analysis suggests that this is a main issue on online creation-evolution discussions.

Common to sciences is their drive for *repeatable, empirical evidence* that can be *confirmed* by other experts in *their field,* captured by 'the scientific method'. Wilber's version of this 'method' is apprehended by the 'three strands of good science': instrumental injunction, direct apprehension, and communal confirmation or rejection (Wilber, K. 2007). Instrumental injunction (1) refers to an actual practice, an exemplar, a paradigm, an experiment, or an ordinance. It is always in the form 'if you want to know this, *do this*.' These systematic enterprises lie behind most forms of science. Direct apprehension (2) refers to an immediate experience of the domain brought forth by the injunction: that is, a direct experience or apprehension of data. As William James pointed out, the real meaning of 'datum' is immediate experience. All science - whether narrow or broad, soft or hard - is anchored to some degree in data, or experiential evidence. With the concept of 'vertical empiricism', Wilber includes physical experiences (or physical data), mental experiences (or mental data), and spiritual experiences (or spiritual data) to science. We will discuss these 'data forms' or 'experiences' in a moment. Communal confirmation or rejection (3)  is a checking of the results –the data, the evidence– with others who have completed the injunction and apprehensive strands adequately. This third criteria simply says that science constantly attempts to confirm (or reject) its knowledge claims, and the fallibility criterion is often used as one part of this third strand of science. A community of peers -or those who have adequately completed the first two strands (injunction and data)- is an important element.

Basically, Wilber proposes that the eight zones are discrete operating paradigms, and that they are all based on 'empiricism', which is 'direct experience of data' - and so all can be scientific. Wilber then includes 'spiritual empiricism' or 'evidence by the eye of contemplation' attuned to the 'transcendelia/spirit' realm. Although we acknowledge the concept of 'vertical empiricism' (different practices are attuned to different realms of data), Wilber's categorization presupposes vague ontological structures (e.g. 'spirit'), probably to support the notion that religion is scientific.

We will start with a description of Wilber's model, not because it integrates vertical empiricism into science (as intended), but because it 1) reveals the historical development of empiricism and rationalism as foundational beliefs, and 2) the paradigmatic difference between science, philosophy and religion. It shows exactly why science and religion *do not* integrate: because of different foundational beliefs that produced an own paradigm (and discourse). Thirdly, we will introduce a more neutral model of 'vertical empiricism' which distinguishes seeing/thinking/feeling and matter/mind to make a more accurate integration dismantled from religious discourse.

In Wilber's vertical empiricism, displayed in black/red in Fig. 2.2, there is sensory empiricism (experience of the sensorimotor world), mental empiricism (including logic, mathematics, semiotics, phenomenology and hermeneutics), and spiritual empiricism (experiential mysticism, contemplative spirituality, and transpersonal experiences). This means there is evidence seen by the eye of flesh, evidence seen by the eye of mind, and evidence seen by the eye of contemplation. Each of the three eyes of knowing is natively attuned to its correlative realms of data: sensibilia, intelligibilia, and transcendelia, respectively. In addition, the eye of mind (or reason) can focus on all realms because you can think about anything. Summarized, this simply says; you can see only matter, you can contemplate only spirit, but you can think about anything (matter, mind, spirit). Thus, there are, broadly speaking, at least five different types of empiricism or experientialism.
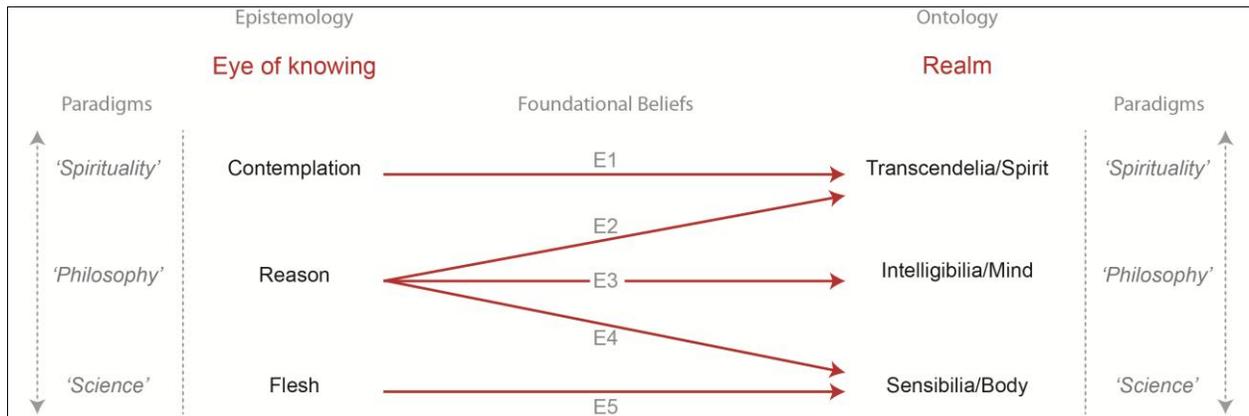


Figure 2.2.2a Wilber's vertical empiricism in black and red (Wilber, K. 2007), appended with Foundational Beliefs (E1 –E5) and Paradigms (Spirituality, Philosophy, Science) (Tim Stevens, 2012)

According Wilber they can all be part of science, but as we will see, they actually 1) resemble different foundational beliefs from empiricism to rationalism and 2) paradigmatic differences between science, philosophy and religion.

*1 Empiricism and Rationalism*
Every human being can see, think and feel. However, a particular 'eye of knowing' can be considered more significant, and a particular 'realm' (mind/matter/spirit) can be considered 'really real'. This amounts in different epistemologies. Although Wilber's model is somewhat indefinite (what exactly is meant by 'the eye of contemplation' and 'spirit'?), it does exactly designate the various epistemologies throughout

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history dealt with in '1.4 Foundationalism: Empiricism, Rationalism and Relativism'. Instead of an integration of all experiences/data into science, Wilber's model actually resembles divergent foundational beliefs. This is signified by 'E1 – E5' in figure 2.2.2a.

Vertical empiricism - which equates empiricism with the experience of 'data' -, does not only comprise the 'seeing of matter' (British empiricism, positivism), but also the experience/perception of thinking or 'mental data', which is traditionally understood as rationalism. Rationalism can be considered as mental empiricism. In this sense, 'mental' refers to both reason and contemplation and thus contains the first four forms of empiricism (E1, E2, E3, E4 in figure 2.2.2a). The difference between reason and contemplation is their perspectives; first-person perspective and third-person perspective respectively.

Pre-modern rationalism characterized by innate knowledge and contemplation, which is based on the metaphysics of early objective idealism (reality consists of ideal, immaterial forms existing outside the mind and the material world is merely a pale reflection of the ideal (spiritual) world) can be seen as E1: contemplation of the transcendelia realm. The transcendelia realm is of central concern and can be known by feeling (innatism, revelation). In a pre-modern world view E1 is thus most dominant, followed by E2.

Modern rationalism, characterized by logic and reason based on subjective idealism ("the real is rational"), can be seen as E2, E3, and E4. The biggest change from a pre-modern to modern worldview lies in a shift from a first-person perspective to a third-person perspective of the world - in the sense that in a pre-modern worldview 'the world outside' and the internal world are not strongly differentiated, while a modern mind takes a more objective stance and uses logic and reason to make sense of the world.

Empiricism (E5 – 'seeing matter') is actually apparent throughout the entire human history but gain significant support in the Age of Enlightenment. Rather than looking inside the human mind, people turned outward to observe the world – sensory perception was more important than what appeared in the mind. In the metaphysical sense of empiricism, it is closely related to positivism and/or materialism.

Hence, Wilber's 'vertical empiricism' actually resembles the different notions on how to gain knowledge ('epistemologies'), from premodern rationalism (innatism, objective idealism) to empiricism (British empiricism, positivism). Even though the epistemologies hold different foundational beliefs about what approaches produce valid knowledge (left continuum – eye of knowing) and whether this knowledge is about 'real reality' (right continuum - realm), Wilber holds that they can all be integrated as part of science.


*2 Science, Philosophy, Religion*
Although Wilber likes to see them all as part of science, these domains have developed discrete paradigms, each with a discrete discourse (thus using discrete 'frames'). This is signified by 'Spirituality, Philosophy and Science' in Fig. 2.2. The ´three eyes of knowing´ are often labelled as; empirical, intellectual and contemplative, and are pigeonholed as the areas of science, philosophy (which to some is part of science) and spirituality or religion (which to some is partly philosophical). In this sense, science would be E5, philosophy E2, E3, and E4, and spirituality or religion E1. Spirituality or religion would only tell something about the transcendelia (spirit), science would only tell something about the sensibilia (body), and philosophy would tell something about transcendelia (spirit), intelligibilia (mind) and the sensibilia (body). Because epistemologies developed from premodern rationalism (innatism, objective idealism) to modern rationalism (objective thinking) to empiricism (British empiricism, positivism), the notion of religion, philosophy and science as succeeding steps of development is explicable. 'The way to know' shifted from religion, to philosophy to science, and so people can think of religion as pre-modern and science as modern (and philosophy as the bridge from religion to science). And indeed, even within the field of philosophy, there is a trend from conjectural philosophy which is closely related to religion, to applied philosophy that is intertwined with science.

Hence, Wilber's model is very insightful for understanding different foundational beliefs (rationalism, empiricism) and paradigms (religion, philosophy, science), but it is not useful for integrating all forms of empiricism into science. The problem with Wilber's model of vertical empiricism is that it is loaded with religious discourse and ontological presumptions that are generally disregarded by the scientific paradigm. What exactly is the research area of 'transcendelia/spirit'? And what scientific practice is meant by 'the eye of contemplation'? These terms are inexact and multi-interpretational.

Although both science and religion can include a wide range of practices to gain knowledge (feeling, thinking, seeing), and both science and religion can include diverse reality domains (mind and matter),

they have a very different discourse. We thus need a more neutral model to differentiate vertical empiricism or various experiences/practices.


*3 Feeling, Thinking, Seeing*
As a human-experience, we can simply differentiate seeing, thinking and feeling. As a zone we can differentiate matter, mind and qualia. Seeing and thinking are active movements of the subject toward an object. Matter is exterior, mind is interior.

In figure 2.2.2b, there is no arrow-point from feeling to qualia because feeling *is* qualia. It is subjective conscious experiences; "The 'what it is like' character of mental states, such as pain, seeing red, smelling a rose, but also the experience of existence". Wilber called it 'the feel of a feeling'. Whereas thinking and seeing are 3rd person perspectives (subject/object relation), qualia is the feeling of pure subjective consciousness (the feeling of being the 1st person).
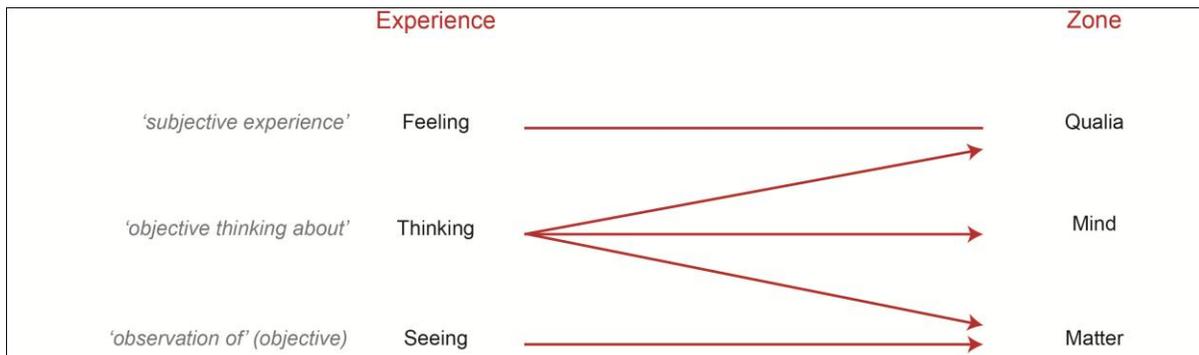


Figure 2.2.2b  Wilber's vertical empiricism in pragmatic terms, dismantled from religious discourse (Tim Stevens, 2012)


Science is generally understood as 1) practicing an objective perspective, which excludes 'feeling' and 2) as investigating the natural realm, which excludes 'spirit'. Science depends mostly on 'seeing matter'. Thinking also plays a role, but mostly in the form of logic and mathematics (formal sciences). These forms of empiricism are verifiable, repeatable and can be confirmed by others. 'Feeling', when framed as the practice of 'introspection' or 'contemplation' can be used as a scientific practice ('contemplative sciences'), but is not widely accepted. It is aimed at getting to know an objective truth, mostly about the mind (in cognitive science). Whereas, phenomenology is the study *of* qualia (domain), contemplative sciences uses qualia as data (method). While in science 'feeling' is a practice directed towards objective knowledge about the natural realm, in religion it is a practice ('praying', 'meditation') to connect with the supernatural realm and is aimed at personal revelation. In '2.3 Integral Religion', we will deal with the 'practice-frame' of religion and find that 'the felt-experience of being' in particular has a very different meaning.


*2.2.3 Levels of Science*


So far we have explained how science can be understood as the inquiry of a *data domain,* such as the Right-Hand quadrants ('hard sciences'), and a *practice* such as the three strands of good science, which then can include seeing, thinking and feeling. Furthermore, science can be understood as a *level (or stage)* of understanding; the rational world-view which characterizes modernity. The comprehension of science as a level explains the scientific revolution and the establishment of modern science. However, in the last century people began to talk about 'post-modern science', suggesting that science itself grows through various levels. Hence, science as a line of development.

Science as a level:
*"The origin is partly described by the sciences, such as by the big bang theory and evolution theory, but at this point such descriptions don't seem to help us any further. I think we are now up for questions that cannot be answered by science alone. We need imagination"* (talk.origins Google Groups) [xii]

Science as a line:
*"We are still doing astonishing findings that shake up our understanding of the world. Things that cannot be incorporated into the current scientific paradigm"* (talk.origins Google Groups)[xiii]


An integral approach to science recognizes that the 'three strands of good science' can be used within various world-views, from magic (impulsive) to mythic (conformist) to rational (conscientious) to systems (autonomous) to transpersonal (ego-aware) (Cook-Greuter, 1999). In other words, science is not *a level or stage,* but there are *levels* of science. In this sense, science is seen as a developmental *line* - a line goes through various levels of development. The various levels of development is a multifold research area somewhat beyond the scope of this study, but important to know is that each developmental world-view will define science based on its own perspective. So although we might think of science as a 'rational approach', there is science in pre-rational, rational and post-rational stages of development. Modernity is seen as the era of science but there is pre-modern and postmodern science.

The three principles of integral methodological pluralism - non-exclusion, enfoldment and enactment – include and honour the context of each level while also judging and discriminating as to the partial value of each. For example, magical science such as various folk science (voodoo) or mythic science (most 'creation science') can both follow the three strands and be empirical in the broad sense even though they are pre-rational. Likewise, rational sciences like physics (what most people consider to be 'science') are also expressions associated with a particular world-view, which are limited from a larger integral context. Contemplative sciences, whether pre-rational or post-rational, are difficult for modern sciences to accept, since both are non-rational (or 'non-objective'). But as we have explained, non-rational is not anti-empirical when empiricism is understood in the broad sense.


### 2.2.4 Summary and Conclusion

Science is commonly thought to investigate the exterior domain ('hard sciences'), but it can include the study of interiors ('soft sciences') and even the inside of interiors. Science can thus also be understood to make 'objective truth claims' (facts) and not 'subjective value claims' (opinions), regardless of the domain of inquiry. As a practice, science is understood to enact an objective perspective (seeing/thinking), but in its broadest definition, it can include data obtained from feeling ('contemplative sciences') when certain procedural criteria are met. Domains and practices, such as qualia, are studied according methodological naturalism and thus 'framed' in naturalistic terms (disregarding 'spirit'). Science is generally coupled with a rational or modern stage of development, but various levels of development have different understandings of science.

## 2.3 Integral Religion

As with science, religion has various meanings to various people. In 'A Sociable God' (), Wilber discusses nine of these different meanings or 'definitions' (e.g., the claim that religious realities are non-rational; that they involve ultimate concern; that they are regressive and infantile; mechanisms of social cohesion; immortality projects; the results of evolutionary factors; defense mechanisms; personal realities that must be approached non-reductionistically; and so on). All of these definitions are right in some ways and point to an important aspect or reality. Many disputants of the online creation-evolution debate seem to have several implicit but often very different definitions in mind, leading to miscommunication. We will not go into each definition, but outline how the main distinctions can be understood and accommodated with integral theory. Integral theory recognizes the context in which each definition is accurate and meaningful, and allows each and every one of those definitions to have its place in the creation-evolution debate.

As we have detailed in '1.2.2 Religion', a main argument for demarcating religion from science is to state that religion does not make claims about empirical truths (the material world), which is the domain of science. Another attempt to demarcate religion from science is to say that the former is based on belief or faith and the latter based on rationality or reason. In 2.3.1 we will first see how religion is understood in terms of a domain, then in 2.3.2 we will focus on its practice, and finally we look at religion as a level, and as a developmental line going through various levels of development.

### 2.3.1 Religion as a Domain

Religion and spirituality can be understood as domains. In a general sense, 'religion' tends to refer to cultures of meaning, symbolism, and theology about God or Spirit – the interior collective or Lower-Left quadrant. 'Spirituality', usually refers to Upper-Left direct felt experiences of the divine. Many people today say they are 'spiritual but not religious', meaning that they have an individual experience of the divine but do not share a communal symbolism. According to this view, religion is institutional, rigid, dogmatic, and authoritarian, whereas spirituality is alive, vital, experiental, and personal. If people want to share a spiritual experience or truth, however, this automatically goes with a degree of institutionalization (such as developing a discourse: if we want to share an experience we need some sort of shared language) and starts to look like religion. Spiritual is usually taken to mean experiental and 'true for me', and religion when opposed to spirituality, means dogmatic and institutional *beliefs* as opposed to *direct experience.* Notice, in that regard, that because religious is often equated with 'mere belief' as opposed to direct experience, then the hybrid phrase 'religious experience' tends to come close to how the word spiritual is often used.

Whether we talk about religion or spirituality, both seem to be particularly concerned with 'the spiritual domain'. This domain can be immanent (spirit is omnipresent and permeates the material world) or transcendental (spirit is outside ('transcends') the material world). 'Spiritual immanence' is a monistic ontology and sees the world as entirely spiritual (reality is spiritual); both mind and matter have spiritual qualities. 'Spiritual transcendentalism' is a dualistic ontology and sees the world as partly material and partly spiritual. Mostly, this goes with the notion that the interior or immaterial side has spiritual qualities: consciousness is either spiritual of itself ('religious idealism'), or instigated by the spiritual realm ('revelation').
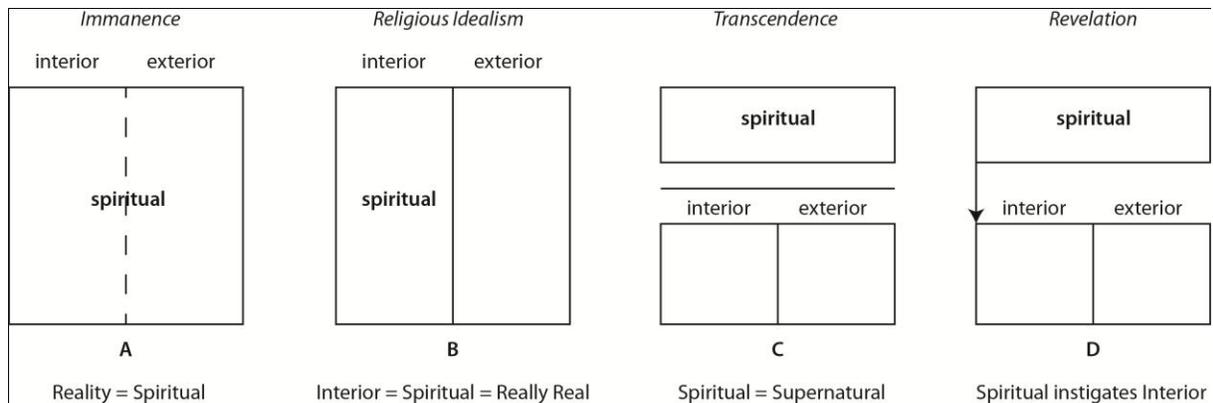
Fig.2.3.1 Spiritual as a domain (Tim Stevens,. 2012)

Today, the notion of immanence (figure 2.3.1.A) commonly takes the form of pantheism: God and reality are the same. It is a monistic ontology. Its metaphysics actually do not differ strongly from naturalism/atheism: both disregard the 'supernatural', but use different frames for describing reality: natural/scientific/descriptive vs. spiritual/religious/symbolic terms. From this perspective, science and religion just offer two different 'frames' for describing the nature of reality. Religion is understood as a particular discourse or 'frame' through which the world can be understood.

Religious idealism (figure 2.3.1.B) is a form of objective idealism; it takes the interior domain or 'subjective consciousness' to be 'really real' and to be 'spiritual' in and of itself. Metaphysically, it corresponds with panpsychism (the view that all matter has a mental aspect, or that all objects have a unified center of experience). Idealism treats most things as 'mental content', panpsychism frames everything specifically as 'mind', and religious idealism frames this domain as 'spiritual'. Hence, religious idealism only differs from other forms of idealism in the way that the interior domain is framed. It is a monistic ontology when it only takes the interior to be real (objective idealism) and is then in conflict with materialism. From this metaphysical understanding, science can study the exterior, but religion is more appropriate for knowing interiority (since interior is spiritual). Religion is understood as a practice, more than a belief. As a practice, the inwardness and individuality is stressed.

Transcendence (figure 2.3.1.C) means that the spiritual is beyond this world and beyond our knowledge - there is a spiritual domain that transcends both mind and matter. The supernatural and natural are two different worlds. Metaphysically, there is not a conflict between mind/matter, interior/exterior, idealism/materialism, but a conflict in the notion whether there exist something beyond the natural (i.e. the supernatural). From this metaphysical understanding, science is about the natural and religion about the supernatural. Religion is understood as a belief, not as a practice.

Revelation (figure 2.3.1.D) means that the spiritual realm is different from the natural and that the supernatural has influence over the natural, mostly via the interior (our consciousness). This challenges science, when science is defined by methodological naturalism. From this metaphysical notion, religion is understood theistically: there is a God that moves people. God has access to us, more than we have access to God. As a practice, religion is outwardly oriented (devotion, dogma, authority).

Recapped, 'religion' acknowledges a spiritual domain. This domain can be natural (mind+matter), interior (mind=spiritual) or supernatural (beyond mind and matter). Hence, the spiritual domain can be understood metaphysically, in which it can be either natural or supernatural, and either interior or integral (incl. exterior). Religion is also understood as describing the same metaphysical reality in spiritual/religious/symbolic terms (instead of natural/scientific/descriptive terms), as in pantheism – in which the difference is not metaphysical but semantic.

However, religion can also be understood as not being concerned with 'the objective truth' at all. In fact, for many people religion seems to be concerned with everything but 'the objective truth'. Whereas science is commonly seen as being concerned with the exterior 'its' ('objective truth'), religion seems concerned with the 'personal meaningful' (subjective) and 'moral rightness' (intersubjective). This is not a metaphysical differentiation, but a differentiation of concern or perspective (not *what* you see, but *how* you see it). Religion seems to focus on our inner subjective world (the world of meaning and value) instead of the outer objective world. It may look at reality as a whole (all quadrants), but from a subjective perspective, not an objective perspective. This means that it may look at the material exterior world, but then focuses on the subjective experience or value of this world, rather than providing a detached description of it.

### 2.3.2 Religion as a Practice

*"Religion almost always requires evidence, but it often claims this evidence is subjective. One "feels it in the heart," or "the spirit of God is in me."* (alt.talk.creationism, Google Groups)[xiv]

As we have seen, religion is commonly perceived as concentrating on the interior domain or 'the esoteric'. Esoteric means "pertaining to the more inward", or simply 'inwardly', as opposed to the exoteric (exteriorly oriented or outwardly). Why does religion pertains to this interiority, why would this be 'spiritual', and what practice or human-experience is attuned to this 'spiritual realm'?

In the previous paragraph we set out how Wilber's model differentiated the 'eye of flesh', 'the eye of reason' and 'the eye of contemplation' attuned to 'body/sensibillia', 'mind/inteligibillia', and 'transcendelia/spirit' respectively. Although Wilber's intention is to integrate them all into science, we found his model more illustrative for understanding different foundational beliefs (rationalism, empiricism) and paradigms (religion, philosophy, science). In Wilber's model, religion is generally understood as E1: 'the eye of contemplation' attuned to 'transcendelia/spirit'. But what does this mean?

We differentiated seeing/thinking/feeling and matter/mind/qualia as more neutral and abstract terms. Whereas thinking and seeing are $3^{rd}$ person perspectives (subject/object relation), qualia is the feeling of pure subjective consciousness (the feeling of being the $1^{st}$ person). Qualia cannot be explained scientifically; neural or physical events (measured objectively) cannot explain mental events (subjective consciousness). For example, how we perceive the colour 'red' can be described by the spectrum of light, the working of the eye and neurological activity, but the subjective felt-experience of 'redness', is inexplicable. Why is there subjectivity at all; the world described by science could just as well work completely by exterior interactions without any feeling involved. This problem of explaining introspective first-person aspects of mental states -and consciousness in general- in terms of third-person quantitative neuroscience is called the explanatory gap. Religious or spiritual explanations are given to solve this problem, or to 'fill this gap'. All the great spiritual traditions essentially claim that consciousness (first-person experience) or 'I-am-ness' is spiritual. It is the basis of experience, and thus 'existence'. Although different religions use different terms and theories, all put emphasis on subjective felt-experience of 'I-am-ness', which is not the experience of 'your inner thoughts', but the realization that there is an infinite omnipotent pure subjective consciousness underneath. This 'I-am-ness' equals 'the subject' (the subjective experience of everything that arises), equals 'the Self' (non-dual), equals 'Spirit' ('God', 'The Ground of Being', 'Brahman', 'Omnipotent Being', 'Buddha', etc.). Underlying all perceived objects there is a pure consciousness or cosmic consciousness that makes a first person experience possible. The subjective experience of this ultimate truth is framed as witnessing 'God', 'Spirit', 'Cosmic Consciousness', 'The Ground of Being', etc. God can thus only be directly felt and not be known objectively. Hence, when religion is seen as a practice, it is often this subjective experience of interiority or 'the esoteric'. This practice can be 'contemplation', 'meditation', 'praying', and is directed towards personal revelation (enlightenment/realization/satori/salvation). In Christianity, contemplation refers to a content-free mind directed towards the awareness of God as a living reality. And a popular form of meditation is to rest in a state of consciousness in which there are no objects in the mind, so that pure subjective consciousness (space, silence, non-duality) is felt. In this light, 'personal revelation' is the insight that you are infinite

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being. This is why interiority is 'spiritual' and why religion is inwardly oriented. But this interiority - 'the esoteric' - is not just inside you, but interior to reality as such, and this is believed to be the ultimate truth. It is unseen, but omnipotent and ever-present.

Although religion is generally interiorly oriented, or 'esoteric', its claims and ideology are generally about reality as a whole. 'God' or 'Spirit' as omnipotent and ever-present reality is thought of as an all-quadrant manifestation and can thus be understood not just from a 1$^{st}$ person perspective, but also from a 2$^{nd}$ person and 3$^{rd}$ person perspective. In fact, religious traditions implicitly tend to favor one perspective over the others. Some emphasize a mystical realization of Spirit within oneself as the Supreme Identity (1st-person); some cultivate a devotion to Spirit as a Great Other, the father perhaps, a being with whom we can enter into communion (2nd-person); others point to nature, the Web of Life, Gaia, or the Great Perfection of this moment (3rd-person). This manifests as seeing God in mystical (1$^{st}$ person), devotional (2$^{nd}$ person), and objective terms (3$^{rd}$ person), and having three main relationships to spirit: identity (I Am), communion (Thou), and union (IT is me). The belief that God is consciousness is represented by panpsychism (incl. panexperientialism, panprotoexperientialism and panprotopsychism), the belief that God is personal or 'other' is represented by theism, and the belief that 'God is It' is presented by (physical-) pantheism (e.g. Gaianism). And so in practice we can contemplate, think, and know about Spirit in the 3rd-person; we can commune with, and devote ourselves to Spirit in a 2nd-person relationship, and; we can meditate, feel and know ourselves as Spirit in a 1st-person apprehension of our source and substance. And so religion is not only practiced as the feeling of qualia, but can include thinking and seeing.

All these spiritual stances depend upon belief, and its practices depend upon faith; it's the attribution of a particular value to Life. Religion is signified by faith. Particularly in relation to science, religion is thought of as based on faith, and science is thought of as based on rationality (fideism vs. rationality). Meditation and contemplation are indeed practices of subjective feeling, not objective thinking, in which 'faith' is a kind of attitude of trust or assent that is necessary to find revelation in the practice. Faith, however, can also be outwardly oriented as 'the belief in something transcendent'. Outwardly oriented practices (devotion, dogma, authority) are generally thought of as 'religious', while the interior practices are thought of as 'spiritual'. Hence, God as the Great Thou, 2$^{nd}$ person, is thought of as religious, while the other two forms are dubbed 'spiritual'. In the issue-framing analysis we will point out the meaning of God to various ideological categories.


### 2.3.3 Levels of Religion

When religion is thought of as one developmental level, it is generally taken to be the ethnocentric world-view (historically of dominance in the pre-modern era). However, each level of personal (and cultural) development has its own religion.

Religion as a level:
*"It seems you have magically (through God's divine providence?) transferred from The Middle Ages to join our discussion, how wonderful"* (talk.origins, Google Groups)[xv]

Religion as a line:
*"I don't belief in the old forms of religion, but I am religious"* (talk.origins, Google Groups)[xvi]

Let's now see religion as a line which can take up various forms/levels. Just as we have seen that science has a different meaning in different levels of personal development or cultural world-views, so too has religion different meanings relative to one's world-view. To understand developmental stages of religion we can unpack the different developmental understandings of God. There is no single God of which religion speaks and which spirituality experiences. A leading developmental theorist, Jean Gebser (1985), found that human beings evolve through at least five major levels of development, which he called archaic, magic, mythic, mental and integral. In the same way then, there are different Gods, from an archaic God to an integral God. An archaic God sees divinity in strongly instinctual forces. A magic God locates power in the human ego and its magical capacity to the world with rituals and spells. This can be

in the form of paganism or voodoo. These understandings of God are still found in tribal cultures and are characterized by immanence (figure 2.3.1.A), as they do not differentiate the earth and supernatural. A mythic God is located not on this earth but in an other-worldly heavenly paradise, entrance to which is gained by living according to the covenants and rules given by this God (conventional). This is what has signified the great religions in their expansion in previous centuries. It is now also known as 'fundamentalism'; specific theological doctrines typically in reaction against the theology of modernism. A mythic God is supernatural and its metaphysics are based on transcendence (figure 2.3.1.C). A rational God is a demythologized 'Ground of Being' that underlies all forms of existence (i.e. deism). The notion of something 'supernatural' is generally disregarded. This has been a more common interpretation in recent decades, each individual having its own explanation of the 'Ground of Being'. Here is where 'religion' can be seen as turning into 'spirituality' (demythologized or 'deconstructed' religion).

### 2.3.4 Summary and Conclusion

Religion acknowledges a spiritual domain which can be natural (mind+matter), interior (mind=spiritual) or supernatural (beyond mind and matter). Mostly, the interior or immaterial side is considered either spiritual of itself, or in relation with the spiritual realm, and so 'spiritual practices' focus on the direct subjective felt-experience of interiority or 'the esoteric'. Outwardly oriented practices (devotion, dogma, authority) are commonly thought of as 'religious'.
Religion can be framed as a *level/stage* of development, generally the ethnocentric world-view (historically of dominance in the pre-modern era) or as a *line* which develops through various stages (which allows modern and postmodern religion).

## 2.4 Integration of Domains, Practices and Levels

In this paragraph we explore how various understandings of science and religion can be integrated. Again, 'integration' does not mean 'fusion to unity' but an all-inclusive comprehension that indicates both 'fits' and 'misfits'. We will thus see how various meanings are related. Although we use the 'science-religion frame', we actually deal with all the differentiations of the previous chapter (science and religion; conflict, independence, dialogue, integral; inductive and deductive reasoning; rationalism, empiricism, relativism; and materialism, idealism). For example, we discover that '*science*' can be framed as a particular practical approach, such as *empiricism*, which would then be in *conflict* with the metaphysics of *idealism*. We integrate the various categories under the 'science-religion frame' because 1) it is the most common frame on internet discussion groups, and 2) science and religion are very broad categories with various meanings that include all other differentiations. We will thus not truly integrate science and religion, but accommodate the various meanings, 'frames' or perspectives within the creation-evolution controversy.

### 2.4.1 Integration of Domains

Science and religion can be understood as distinct domains of inquiry (independence thesis), such as 1) material vs. immaterial, 2) natural vs. supernatural, or 3) fact vs. value, but are commonly perceived as having overlap in some areas (resulting in conflict).
Most notably, religion is thought of as focusing on the interior dimension and science is thought of as focusing on the exterior dimension. When disputants hold that only one side is really real (monistic materialists and monistic idealists), then there is an ontological conflict. However, most discussion is on what the interior dimension 'is' or 'means'. If science does acknowledge this domain, it is seen as a natural phenomenon that can be studied from an objective perspective. Religion, on the other hand, considers the interior side (esoteric) as either spiritual of itself, or in relation with the supernatural realm. Religion can thus be seen as attributing properties to the interior domain (metaphysical), but it can also be

seen as attributing value (meaning). In the last case, religion seems to be concerned with subjective value (personal/cultural meaningful) and science with objective truth.

### 2.4.2 Integration of Practices

To integrate science and religion, Wilber distinguishes the eye of contemplation (intuition/feeling), the eye of reason (thinking) and the eye of flesh (seeing), which are natively attuned to spirit, mind and matter respectively. However, this shows an epistemological and paradigmatic difference, rather than a practical integration.
People differ in their opinion on what *practice or perspective* leads to true knowledge (seeing/thinking/feeling: empiricism/rationalism), and how 'real' particular perceived objects are (matter/mind/spirit: materialism/idealism). The different perspectives (seeing/thinking/feeling) are thus represented by distinct epistemologies (empiricism/rationalism) and have evolved into distinct paradigms or practices (science/philosophy/religion). The difference between science and religion can thus be understood as epistemological, historical, paradigmatic and practical.

If science and religion are interpreted in terms of perspectives or practices, then science is generally associated with a third-person objective perspective (seeing matter), and religion/spirituality with a first-person subjective perspective (feeling spirit). Most notably, science can study qualia, but as a natural phenomenon from a third-person perspective in order to produce descriptive truth-claims, while religion explores qualia as a spiritual phenomenon from a first-person perspective (feeling, intuition, faith) to enhance personal revelation or realization.

*Studying Religion*
Science can study religion from all eight methodological families. A common argument against religion is to study it from one paradigm (for example from neurophysiology) and then conclude that religion is just that (just a state in the brain). In fact, neurotheologists have discovered a G-spot (God-spot) in the brain: tickle it and you have a spiritual experience. This is valid information, but neurology cannot generalize this into ontological claims beyond its domain. Such neurological research does not prove God, nor does it prove that God is 'just neurological activity'. Likewise, God is not just a social construct, or just a psychological need, or just spirit. This is all 'quadrant-absolutism'; investigating one quadrant and taking that quadrant for 'real reality' or generalizing the argument derived from this quadrant to the whole of reality.
In appendix 2, it becomes clear that many arguments against the existence of God are based on a scientific understanding of religion, such as 'the conflicted religions argument' (there are different religions, and they cannot be all right), 'the historical induction argument' (since most theistic religions come to be regarded as untrue or incorrect, all theistic religions, including contemporary ones, are therefore most likely untrue) and  'the argument from parsimony' (since natural - non-supernatural - theories adequately explain the development of religion and belief in gods, the actual existence of such supernatural agents is superfluous). However, explaining religion from one perspective, does not prove that the perspective of religion itself is therefore 'untrue' or useless. Now that we studied science-religion integrally, it makes perfect sense that these arguments are based on inductive reasoning, explained in 1.3: They use particular knowledge, gained from particular perspectives for drawing conclusions (generalize) beyond their domain.

### 2.4.3 Integration of Levels

Every developmental stage has an own understanding of science and religion. This means that from each worldview or developmental stage, science and religion relate in a different way and thus have a different way of trying to integrate them.
Within a magical world-view science and religion are undifferentiated, and local 'folk' understandings of science, such as causal relationships and taxonomies, support local religious practices (voodoo, witchcraft). The boundary between science and religion is largely absent. A mythic world-view unites

science and religion through dogmatism (fundamentalism and scientism), as in creation science, in which religion accounts for science. At this level, 'science' can be referred to as 'religious science', the first term referring to an approach or attitude from a mythic stage, the second to a domain of inquiry ('science'). In rational world-views, logic and rationality integrate science and religion. Here God becomes a proof. On this level, science must approve religion or science must prove God. At this level, 'religion' can be referred to as 'scientific religion', the first term referring to an approach or attitude (modern/rational), the second to a domain of inquiry ('religion'). The post-modern world-view emphasizes plurality in both science and religion, through interdisciplinary research and interfaith dialogue respectively.

Our preliminary framing-analysis suggests that a significant difference ('conflict') between meanings of science and religion on online discussion groups concerns *levels.* Just as science is coupled with modernity even though there are premodern and postmodern sciences, so is religion generally coupled with a premodern stage/level of development (whether individual or cultural) even though there are modern and postmodern forms/understandings of religion. 'Spirituality' is seen as either pre- or post-modern. The different understandings of hierarchy easily inflict the social conflict. (There are all sorts of ways in which these levels can be differentiated (literature), and connected to history (literature), but we will keep it simple and distinguish three levels (such as premodern, modern, postmodern) to clarify the logic).

The various *levels within* (the line of) science and religion conflict with the understanding of religion or science as *being one level*. This produces a problem which Wilber has referred to as the pre/post-fallacy: the problem that 'post-stages' (e.g. postmodern, post-rational, post-conventional) are reduced to 'pre-stages' (e.g. premodern, prerational, preconventional) and the other way around ('pre-stages' are elevated to 'post stages'). For instance, both pre-conventional and post-conventional stages are non-conventional and can be confused for each other. A classic example: Freud considered mystical realization to be a regression to infantile oceanic states (all spiritual is pre-rational), while Jung commits the converse form of the same mistake by considering pre-rational myths to reflect spiritual realizations (all spiritual is post-rational).

In the creation-evolution discussion, 'creationist' see themselves as post-rational (beyond reason lies religious experience), while 'rational people' see themselves as post-religious (beyond religious superstition lies reason), irrespective of their actual stage of development. On the CE-Groups this became apparent in various ways, illustrated by the following two quotes, the first representing belief as post-rational, the second representing belief as pre-rational:

*"This is why faith comes to confirm and enlighten reason in the correct understanding of this truth: "By faith we understand that the world was created by the word of God, so that what is seen was made out of things which do not appear."* (Atheism vs Christianity Google Groups)[xvii]

*"Reason is a powerful tool to accept what faith is: superstition"* (Atheism vs Christianity Google Groups)[xviii]

The pre/post-fallacy is particularly apparent if diverse worldviews meet, if 'meanings' differ, and if identity is at issue. If differences are understood as being hierarchical, then the discussion is framed in terms of stages. Two facts are important here: 1) each new level or stage transcends and includes ('integrates') the previous stages and 2) people understand the world in terms of the stage where they're at. So in very short and simple terms: disputants with a rational stage of development consider all non-rational disputants to be pre-rational (because they do not know post-rational stages). In the creation-evolution debate, all disputants can have the feeling that others are at a previous or 'lower' stage as theirs. For believers this might get the form: "He is talking rational, I know all that he is saying, but I've experienced that there is something beyond rationality. And he will not understand me when he sticks to his rational approach". For non-believers this might get the form: "He is talking irrational, I have been irrational too when I was young so I know where he is at. He just needs to be a bit more critical, read some more, and then he will reach the same point as me and acknowledge that I am right after all". Our preliminary framing-analysis suggests that this type of hierarchical framing is apparent on the creation-evolution discussion groups.

## 2.5 Summary of Word- or World-views

*Integral Theory*
- Integral theory is trans-metaphysical and can thus accommodate various foundational beliefs (empiricism, rationalism, relativism) and metaphysical underpinnings (idealism/materialism and atomism/wholism).
- Monists hold that there is only one truth - reality is material (materialism), reality is mind (idealism), reality is spiritual (spiritualism) - and are in conflict with each other. Dualists acknowledge both sides (mind and matter), but hold that two independent ways lead to two independent truths (tends to be relativistic). Pluralists interpret various approaches by connecting particular perspectives with particular perceptions, or 'a particular doing with a particular knowing' (tends to be pragmatic).
- The integral map shows the fundamental perspectives on reality (*epistemologies*), and thus can accommodate the various meanings of words (*semantics*). A word, such as 'spiritual', can mean a domain (interior/'esoteric'), a level (pre-rational or post-rational stage of personal development), a line (spiritual intelligence), a state (meditative state) and a type (a spiritual type of person).

*Science*
- Science can be framed in terms of its *domain* of inquiry, ranging from objective analysis of exteriors (hard science), to the inclusion of the objective analysis of interiors (soft science), and even to the inclusion of the study of subjective experience (phenomenology). All zones can thus be studied scientifically when described from a third person (objective) perspective.
- Science is mostly understood to be concerned with the 'objective truth', rather than 'moral rightness' (intersubjective), or the 'personal meaningful' (subjective).
- Science can be framed in terms of its *practice* focusing on procedures of 'the scientific method', but more commonly; on the role of empiricism and rationalism to know the 'objective truth' (epistemologically). Science is commonly understood as practicing an objective perspective, accepting data obtained by 'seeing', and – to some extend - 'thinking' (formal logic, mathematics), but traditionally neglecting data obtained from 'feeling'.
- Science can be framed as a *level/stage* of development (such as the rational or modern world-view) or a *line* which develops through various stages (which allows pre-modern and postmodern science)
- A particular scientific methodology can be used to study a particular aspect of religion. This ´explanation of religion´ can then serve as an argument to disregard religion altogether. This shows that many *arguments* against religion are based on *inductive reasoning*; findings from a particular methodology are generalized to reality as a whole (absolutism).

*Religion*
- As a *domain*, 'religion' tends to refer to LL cultures of meaning, symbolism, and theology about God or Spirit, and 'spirituality' to UL direct felt experiences of the divine. Many people today say they are 'spiritual but not religious', meaning that they have an individual experience of the divine but do not share a communal symbolism.
- Religion is concerned with 'the spiritual domain'. This domain can be immanent (spirit is omnipresent and permeates the material world), but is commonly seen as transcendental (spirit is outside ('transcends') the material world). The interior or immaterial side is either spiritual of itself, or it has a relation with the spiritual realm.
- Religion is mostly understood to be concerned with the 'personal meaningful' (subjective) and 'moral rightness' (intersubjective), rather than 'objective 'truth' (it).
- Religion can be framed as a *practice*; the subjective experience of interiority or 'the esoteric'. This practice can be contemplation, meditation, praying, and is directed towards personal revelation (enlightenment/satori/salvation). The subjective experience of pure consciousness or 'I-am-ness' is framed as witnessing 'God', 'Spirit', 'The Ground of Being', etc.
- Religion can be framed as a *level/stage* of development, generally the ethnocentric world-view (historically of dominance in the pre-modern era) or as a *line* which develops through various stages (which allows modern and postmodern religion).

*Integration*
- *Domain*: Science and Religion can be understood as distinct domains of inquiry (independence thesis), such as 1) natural vs. supernatural, 2) fact vs. value or 3) material vs. immaterial, but are commonly perceived as having overlap in some areas (resulting in conflict). Most notably, both science and religion deal with the interior, but frame it differently. Science (or the 'naturalism-frame') studies the domain from an objective perspective and talks about 'immaterial', 'cognition', 'perception', etc. Religion (or the 'supernatural-frame') studies the domain from a subjective perspective and talks about 'esoteric', 'spirit', 'depth', 'soul', 'intuition', and 'God'. Although they are both concerned with interiority, they use different frames and attribute different qualities to this domain.
- *Practice:* When we decipher empiricism and rationalism we find that we can simply distinguish, seeing/thinking/feeling, as the subject's practices, and matter/mind/qualia as perceptions. Disputants differ in their opinion on what *practice* leads to true knowledge (seeing/thinking/feeling: empiricism/rationalism), and how 'real' particular objects are (mind/matter: idealism/materialism). Science can study qualia, but as a natural phenomenon from a third-person perspective in order to produce descriptive truth-claims, while religion explores qualia as a spiritual phenomenon from a first-person perspective to enhance personal revelation or realization.
- *Level:* In the creation-evolution discussion, 'creationists' see themselves as post-rational (beyond reason lies religious experience), while 'rational people' see themselves as post-religious (beyond religious superstition lies reason). Both sides think they are higher up the hierarchy.


## 2.6 Conclusion

Disputants understand words and the world differently. This chapter set out a theoretical framework for the conceptualization and integration of diverse perceptions (diverse subjective perceptions of a word or the world). This framework is used in this research for the interpretation of words (semantic) and the accommodation of world-views (epistemological). It shows the theoretic connection between interior perceptions and trans-metaphysical perspectives. In 'Framing-Analysis', this theoretical framework allows us to conceptualize, integrate and analyse frames.

In this chapter, we did not differentiate between epistemology and semantics. Just as the same world can be perceived in various ways (epistemologies), so can one word mean various things to different groups of people (semantics). By distinguishing and unraveling the various interpretations of the basic 'words' in this discussion ('religion' and 'science), we distinguished and revealed the basic 'world-views' in the discussion. We thus applied the integral framework to elucidate the epistemic/semantic 'fits' and 'misfits' of the creation-evolution controversy and therewith indicated the problem of mutual understanding of the creation-evolution controversy in general. Hence, the integral map as applied in this chapter is used for the issue-framing analysis to understand the ideological dimension. It will be used inductively for interpreting language, such as for the identification of issue-frames in 4.1. It will be used deductively in 4.2 for analysing the various meanings of 'science' and 'religion' to the ideological-categories (semantically), and for examining how the ideological-categories relate epistemologically.

A world-view is not the passive perception of the world but the subject's active (but largely unconscious) projection or 'enactment' of a particular perspective on the world. And this perspective can be traced with the integral map. We define framing as the enactment of particular perspectives over others. 'Taking perspective' and thus 'making meaning' (i.e. 'understanding') happens in language. We thus need to know how these epistemic perspectives (interior) transpire in language (exterior). Hence, before we are able to conceptualize, integrate and analyse frames with the theoretical framework of this chapter, we first need to know how to study language empirically. In the next chapter, we show how perspective-taking is inherent in every linguistic expression, the exchange of which (i.e. 'communication') allows for mutual understanding (the construction of a particular social reality).

## 3. A Framework for Framing-analysis

The previous chapter used the integral framework to elucidate the epistemic/semantic 'fits' and 'misfits' of the creation-evolution controversy in order to reveal the potential problems of mutual understanding in the discussion. This provided a theoretical framework for analysing the ideological dimension of the discussion.

However, for our framing-analysis we need to know how these world-views actually transpire in language. Moreover, we must not only investigate the ideological dimension (by an issue-framing analysis), but the social dimension as well (by an identity-framing analysis). In this chapter we use integral theory to reveal how everyday language is a system of perspectives that reflects both group formation ("identities") and metaphysical perceptions ("ideas").

The first paragraph (3.1 Integral Theory and Communication) is an introduction of this chapter and is aimed at providing a general overview for understanding communication in integral terms. The concept of communication and mutual understanding will be explained in integral terms and the quadrant model of integral theory is used to understand; 1) the three basic personal pronouns, 2) the hori-zones and 3) the process of communication and 'mutual understanding'. In this last part (3.1.3) we identify three obstacles for mutual understanding that are used to interpret some of the results of the framing-analysis.

In '3.2 Integral Mathematics' we explain how the world is built of perspectives and how integral mathematics is the numerical notation system of representing these perspectives. It is the most abstract conceptualization of perspectives and provides an insight into the various ways that perspectives are used in this research.

In '3.3 Communication, Language and Perspectives', we relate the perspectives of integral mathematics to language, communication and mutual understanding. We show the relation between the perspectives of integral mathematics and language, how the personal pronouns indicate perspectives, and then focus on the role of perspectives in the wider context of communication and mutual understanding.

In '3.4 Framing and Integral Theory', we make apparent exactly how a particular linguistic expression is an act of framing. First, in 3.4.1 we specify the theoretical relation between framing, perspective-taking and integral theory. In 3.4.2 we look at the implications of the use of particular personal pronouns in the process of group formation. This is of interest for the identity-framing analysis. In 3.4.3 we show more elementary how every linguistic expression indicates a (momentary) metaphysical world-view. This is of interest for the issue-framing analysis.

## 3.1 Integral Theory and Communication

In this chapter we use integral theory to analyse communication. This paragraph is an introduction of this chapter and is aimed at providing a general overview for understanding communication in integral terms. The conceptualizations are based on 'Excerpt C' of Wilber (Wilber, 2003).

In this paragraph the concept of communication and mutual understanding is explained in integral terms. We will use the quadrant model of integral theory to understand; 1) the three basic personal pronouns, 2) the hori-zones and 3) the process of communication and 'mutual understanding'. In the last paragraph we identify three obstacles for mutual understanding: the problem of intention or identity, the problem of culture or translation, and a problem of phenomenology.

### 3.1.1 Interior and Exterior: First- Second- and Third-person

In communication, 'first person' refers to the person who is speaking (singular: I, me; plural: we, us); 'second person' refers to the person spoken to (singular: you; plural: all of you); and 'third person' refers to the person or thing being spoken about (singular: he, she, him, her, it; plural: they, them, its).
A first-person perspective, reality, or dimension is something that can be seen only by a speaker in a particular worldspace. A first-person holon can see exterior objects and events, but the one thing a first person can see or feel, and nobody else can, is his or her own interior space. This space is described in 'I-language'. It is my interior, and nobody else has access to it. This 'I-space' is essentially the Upper-Left quadrant; the interior phenomenological spaces of an individual (singular) holon. It is the phenomenological space brought forth, enacted, and illumined by a particular subject of consciousness. This is why Wilber actually refers to the Upper-Left quadrant as the 'I-space'.
If a second person - such as you - enters my worldspace (or my I-space), then you and I might be able to enter into communication and some sort of understanding - as is hopefully happening right now when you understand my words as you are reading. If that occurs, the second-person 'you' and first-person 'I' become part of a first-person plural 'we', which is experienced interiorly. The essential point is that a 'you' and an 'I' can come together to form a phenomenological 'we-space'. This is why Wilber actually refers to the Lower-Left quadrant as the 'We-space'. 'You' and 'me' make 'we'. Let us now move to the third person.
A third person is something that we are talking about (not to or with). As we define interior as any first-person (singular or plural) realities, we can define the exterior dimensions of any occasion as those aspects that can be seen or felt as a third person, in other words, they are the exterior dimensions of events. This is why Wilber sometimes puts the two right quadrants together and refers to the right-half of the integral framework as the "It-space". So interior means any phenomena in an I-space or we-space (i.e., any holon in the Left-Hand quadrants: the first-person realities available to a holon). Exterior, on the other hand, means any phenomena apprehended in a third-person perspective (i.e., any phenomena or holon in the Right-Hand quadrants: any phenomena in an 'it-space').

### 3.1.2 Inside and Outside: Hori-zones

Now that we understand the interior and exterior dimension in relation to communication, we will explain the inside and outside mode/perspective, which together create the eight zones. This will be used to explain the process of communication and mutual understanding in the next part (3.1.3).

The first and foremost distinction (that of interior and exterior *dimensions)* call three different worlds or spaces into being, represented by the three personal pronouns. We can look at these world's 'inside' or 'outside' by a subjective or objective *mode/perspective* respectively. There is the inside and outside of an 'I-holon', a 'we-holon', an 'it-holon', and an 'its-holon', making the eight zones or eight native perspectives of being-in-the-world (see figure 3.1.2). This was already explained in 2.1.2, but then used to explain various methodologies.

Each of these 8 dimension-perspectives are, in essence, an 'event horizon', a phenomenological worldspace. It is a space of possible experience for sentient beings in general (for me, you and him) and indicates what kind of world is disclosed or brought forth by a particular perspective. It is not a physical location in the world but a phenomenological experience of the world, a perception, as a result of a particular perspective. There are I-spaces, we-spaces, it-spaces, its-spaces and a hori-zone is the apprehension of those events from within or from without their own self-defined boundaries. The various hori-zones are, as it were, the ways the Kosmos feels/knows itself. We will particularly explore the interior zones as they will be used to understand the process of communication in the next part.
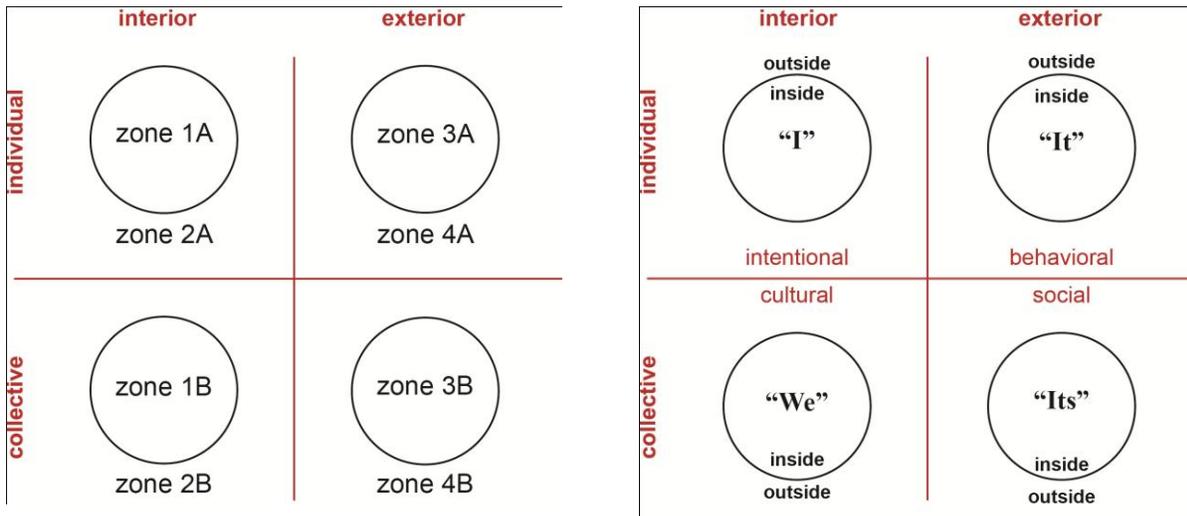


Figure 3.1.2 The Hori(zones) (left), with pronouns (right)
(Tim Stevens, 2012)

The inside of an interior holon (zone 1) means anything on the inside of the boundary of an 'I' (zone 1a) or a 'we' (zone 1b). The simplest example is my own self-awareness right now. These are the first-person subjective realities directly felt as 'I'. This immediate prehension or I-feeling (UL) is fairly straightforward and easy to understand. Right now, there is a world arising in your I-space and, like all first-person realties, that world directly and immediately presents itself to your naked awareness. It does not matter if some theorist, adopting a third-person distancing mode, says that these phenomena are socially constructed; at the moment of their presentation, they are immediate in your I-space. You do not know this I-space by distance or description but by feeling and acquaintance (not third-person, but first-person perspective). Zone 1a thus refers to whatever is arising in consciousness, whether it has a referent in the sensory world or not. In philosophy, these direct experiences within consciousness are called 'qualia'. A representative methodology of zone 1a is phenomenology. As we have seen in 2.3.2, this 'I-am-ness' feels as people's 'true self', 'soul' or 'spirit'; the fundamental consciousness underlying all experiences and/or even 'existence'. A scientific analysis of this experience is the 'phenomenology of religious experience'.

The outside of an interior holon is anything on the outside of an I or we boundary but still in an interior space. For example, in my own mind's eye, I can see images and objects, as when I dream, imagine, or visualize. What I see in my mind's eye are not exterior objects but interior objects. They are not forms in the exterior world, like rocks, but they are still outside my 'subjective-I', because 'I' see the rocks, or 'them' in my mind. They are interior 'third persons'. Another common example of the outsides of individual interiors, or something outside my I, is my own unconscious processes, subpersonalities, and multiple personalities; they are all outside my I but still in an interior space. This is not the subjective self 'in' or 'to' which everything arises, but an objective sense of self; entities within me. In religion, but also in philosophy and science, these interior objects are sharply contrasted with the interior subjective perceiver. The first 'subjective-I' is generally considered the true self (subjective perceiver underlying all perception),

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while the second 'objective-I' is generally considered the false self or 'ego' which identifies with interior (finite) objects, such as 'my identity'.

Just as we have a phenomenological I-space, so we have a phenomenological we-space. The interior of a we-space too, is only known by acquaintance, not description: you have to be there in person, which means, in first-person - it is the inside of the first-person plural. In general, we relate objectively to things or third persons ('its'), but we relate inter-subjectively or interpersonally with other sentient beings or subjects of consciousness ('you'). You know very well, that when you shift from talking *about someone*, to talking *with someone*, a 'we-space' arises. A first-person plural reality are feelings of shared understanding, shared values, or group identity. It is simply everything that is evoked when you and I use the word 'we'. You cannot see a we-boundary in the exterior or sensorimotor world (these are interior phenomena; all Left-Hand holons are 'invisible'); but you and I both know quite clearly who is 'in' our circle of friends and who is not. Of course, there are many different types and degrees of 'we's': a familial we, a religious we, a national we, and so on. These interior boundaries, hold the key to much of human motivation, dynamics, conflicts, and accords. If people form a strong 'we' that means there is strong social cohesion. We even call people inside a particular we-circle 'insiders,' and people who are *outside* that phenomenological boundary (or outside that particular hermeneutic circle) 'outsiders'. (In our framing-analysis we will determine these hermeneutic circles and the principles on which these are formed.)

Note that there is a significant difference between 'membership' and being part of a (social) system. Several 'I's' can be 'inside' a 'we' (or can be members of a we) if they share a set of values, ideas, linguistic practices, group identities, background contexts, and so on. A 'we' is established by a shared culture; not by geographical proximity or physical location (it is interior not exterior; 'we's' not 'it's'; intersubjectivity not interobjectivity; hermeneutics not ecology). It is true that all exteriors have interiors, but those two dimensions do not overlap in physical space, because the interiors do not exist in physical space. This becomes very apparent through the process of group formation within the virtual reality (non-physical) of online discussion groups (examined in chapter 5).

Let us shortly explain the right-hand quadrants to be complete. The inside of an exterior holon means anything going on inside the boundaries of an (individual or social) holon *as seen and described in third-person, exterior, it-language* (such as the cells in my body). Take the structure and components of your neocortex: your brain is 'inside' you (or inside your physical organism), but this inside is described in objective, third-person, exterior terms (such as frontal lobes, neural pathways, serotonin, etc.). This is the difference between you looked at from an exterior point of view or right-hand quadrants (as an 'it' or 'organism' with a 'brain' and is part of an 'ecosystem' - all of which are third-person terms and perspectives), and you looked at from an interior point of view or left-hand quadrants (as 'I' or 'mind' or 'feeling' - an immediately present awareness that can only be captured in first-person terms and perspectives). The outside of an exterior holon obviously means anything on the outside of that particular holon's boundary (or external to its autopoietic regime), e.g. outside an individual mitochondria is the rest of the cell.

There is an important relation between interiority/exteriority and inside/outside: Whereas the outside of my exterior includes other exteriors (such as my house, my town, my local ecosystem, etc.), the outsides of my interiors involve other interiors. That is why we first distinguish left-hand quadrants (interior dimension) from right-hand quadrants (exterior dimensions). When I view other people in a third-person mode, I can indeed see their bodies or organisms existing 'out there' in the exterior or sensorimotor world; however, I cannot see, feel, or find their interiority 'out there' in the physical world, because interiority appears or arises (or is enacted) only when I adopt a first-person mode of awareness. Only third persons exist or stand forth in the exterior or sensorimotor world; first persons exist or stand forth only in the interior worlds. Wilber makes this clear by this lively example: "Out there in the exterior world is some foreign guy, standing next to you, my long-time friend. I can see both of your bodies in the exterior world, but I can only see or understand *your interior* or *your "I"* as part of this inside-we, so that "you," but not "him," are someone that I feel or know from within the hermeneutic circle." (Wilber, K. 2003)

With this in mind, let us now turn to communication and mutual understanding. The prerequisite of communication, but also the goal of communication is mutual understanding. Interlocutors need to understand each other to some degree in order to be able to communicate (there needs to be some form of 'we', like a shared language), and through communication interlocutors come to an understanding (fuse horizons and create meaning in intersubjective space). It is through communication that we create intersubjectivity, a first person plural, or an interior 'we-space', and we, which includes you and me, are now unravelling this process by our very use of it.

When any 'you' and any 'I' have a possibility of reaching a shared or mutual understanding (an intersubjective or cultural event of the LL dimension), then 'you' have been converted from an alien or foreign 'it' or third-person object (which is merely an outside of my exterior) to a second-person entity, a bearer of consciousness and meaning with whom I am now beginning some sort of communication. You have become a second-person holon who has entered my intersubjective field and thus are no longer an outside in my exterior space but an outside in my interior space - which means, a holon in my interior space that I am beginning to orient to as another I, as a sentient being with whom I can share some sort of meaning or value. I can therefore start speaking to you directly (which is the definition of second person; 'the one spoken to') and if we reach some sort of mutual understanding, then both 'you' and 'I' have become part of a 'we'; a hermeneutic circle. This is a circle of shared insides of the interior spaces. Some aspects of 'you' and of 'I' are now inside a we-boundary. There is thus a fusion of horizons; outsides of exteriors ('it') have become outsides of interiors ('you') which have become shared insides of interiors ('we'). I share part of my inside-interior and you share part of your inside-interior and those exchanges are internal to the 'we': we have shared-inside-interiors. This does not mean that we agree, or that we have a similar subjective experience, but that we -together-, have created an interior space in which 'your I' and 'my I' meet, in which 'we understand each other'. Whenever I talk to you, or you talk to me, this communication is grounded in this intersubjective space, a space of shared inside-interiors, a hermeneutic circle.

The online creation-evolution controversy is not just a disagreement, but displays a lack of mutual understanding on the whole. We clarify the process of mutual understanding in greater theoretical detail in appendix 3, in which three 'impediments' or 'aspects' of mutual understanding come to light. Theoretically, there can be a lack of mutual understanding because:

1) Disputants do not want to meet (there is no interpersonal dialogue to create an intersubjective space)
2) Disputants cannot understand each other (disputants from different cultural traditions have different semantics)
3) Disputants have different metaphysical world-views (disputants enact different trans-metaphysical perspectives, and thus do not share the same subjective worldspace)

Our research design is not set up to distinguish these impediments and to decide which one causes the conflict. The conflict is not *either* a problem of intention or identity (impediment 1), *or* a problem of culture or understanding (impediment 2), *or* a problem of different metaphysical world-views or 'worldspaces' (impediment 3). These impediments are highly conceptual, and even if we consider these problems to be real and distinct, then they are likely to coincide.

However, although the aim of this research is to enlighten the ideological and social dimension, we will integrally encounter these three impediments/aspects in this research design. This paragraph shows how our methodology relates to the concept of mutual understanding. This enhances our ability to analyze the results of our framing-analysis and thus enhances our understanding of the creation-evolution controversy. In the framing-analysis we refer to the three aspects in order to relate our findings with this theory of mutual understanding and to analyze the controversy in light of this. We will now set out how the three impediments or aspects of mutual understanding disclose in this research. An elaboration on the theory behind these three impediments is found in appendix 3.

First, if we approach mutual understanding socio-psychologically, disputants might see each other merely in objective terms and restrain from creating a shared intersubjective space. When disputants *talk about* things or about each other, and not *to each other,* there is no intersubjective space, no dialogue, and thus no space for mutual understanding. Third-persons cannot have a dialogue or conversation. If *we* want to talk *to* each other, third persons (he/she) need to be transformed into second persons (you): bearers of consciousness and meaning. Disputants need to go into dialogue (turn an alien 3$^{rd}$-person into a 2$^{nd}$-person) and share inside interiors (fuse horizons) in order to come to an understanding (*Verstehen*). As explained by Gardamer, dialogue means questioning, engaging, and participating in order to fuse horizons and create shared meaning (Coltman, R., 1998). Because disputant must be willing to understand each other, this is considered a socio-psychological impediment for mutual understanding.

In this chapter, we develop a framework that we use to analyse the social dimension of the Google Discussion Groups. In 3.4.2 for example, we show how the personal pronouns are reflections of perspectives that are indicative for social positioning. This will prove to be of specific value for our identity-framing analysis (chapter 5). In '5.2 Group Formation' we conduct a conversation analysis, looking at the communication between disputants. This will determine the extent to which disputants try to come to an understanding. If group formation occurs prior to, or independent of, the interpersonal interaction (if disputants first read the other's posts to determine the other as in- or out-group member and then react only to out-group members in a particular way), this means that there is no interpersonal communication without group-bias, and thus a great socio-psychological impediment for mutual understanding. We call this the problem of intention or identity.

Second, if we approach mutual understanding culturally or semantically (in integral terms: horizontally or 'translatively') disputants might be unable to come to a shared intersubjective space because they 'speak a different language'. Science and religion, for example, are two hermeneutic circles which have developed in quit distinct ways, each developing its own discourse for interpreting the world (i.e.; for the attribution of meaning). On the CE-Groups people from different hermeneutic circles -different historical, cultural (and thus linguistic) backgrounds- will have a hard time understanding each other. The meaning of the word 'God' for example will depend on the semantic domain within which it is found in. This can impede disputants to understand each other (impediment 2) and is considered a problem of culture or semantics.

In chapter 2 we already provided a trans-metaphysical framework for integrating various semantics. The various meanings of 'science' and 'religion' can indicate this impediment. This 'problem of culture or semantics' becomes apparent when disputants enact similar perspectives (enact the same 'worldspace'), but then attribute a different meaning to this worldspace. Hence, a 'culture clash' occurs when disputants enact similar perspectives and actually encounter each other. In practice this means they meet in similar threads on the CE-Groups. Since we define frames as perspectives, these difference play out *within* frames. In the conceptualization of this research, these cultural differences are likely to become apparent *within* threads on the CE-Groups, and are thus *explicit*.

Third, if we approach mutual understanding trans-metaphysically, disputants might not just lack mutual understanding because of attributing a different meaning to the world, but because they enact different perspectives and do not meet or 'intersect' at all ('they live in a different world'). The process of mutual understanding implies that here is some degree of access to first- and second-person realities; realities that can only be known by *acquaintance*, not description. To have intersubjectivity (mutual understanding), subjectivity needs to actually intersect. In theory this means that people need to enact similar perspectives to have similar perceptions.

In practice, disputants with different perspectives do not meet on the CE-Groups. Since they 'live in a different world', they are active on different threads. In the conceptualization of this research, metaphysical differences are *between* frames (different perspectives), and are thus *implicit* on the CE-Groups.

Restated; the third impediment indicates that disputants enact a different world, the second impediment indicates that disputants use different words to describe a similar world. We use this differentiation to in the analysis of the ideological categories in 4.2.3.

## 3.2 Integral Mathematics

In this paragraph we explain how the world is built of perspectives and how integral mathematics is the numerical notation system of representing these perspectives. Integral mathematics is simply a tracing of what happens when sentient beings 'touch' (i.e.; enact; talk to; think of; commune with) other sentient beings. It does not just represent the objective exterior connections between subject/object (3rd person perspectives), but also includes interiority and plurality, which are necessary for understanding communication. Integral mathematics is a system built of perspectives, and these perspectives do not just signify how we understand the world (interiorly in our minds) or represent the world (exteriorly in language), it is perspectives that bring the world into being, and it is the activity of perspective-taking that allows us to make sense of the world.

We start by clarifying how the world is basically built of perspectives (3.2.1) and explain how this is connected with integral theory (3.2.2). Then we go into integral mathematics and explain how it can explicate; Persons and Perspectives (3.2.3), Plurals and Interiors (3.2.4), and Quadrants and Zones (3.2.5). In the last paragraph '3.2.6 Integral Mathematics and Framing' we explain how integral mathematics is used in this research. We mainly used the work of Fuhs (2007); 'An integral map of perspective-taking'.

### 3.2.1 From Perceptions to Perspectives

A particular perception is the result of a particular perspective, that is; a particular *relation*. This notion, called 'perspectivism', is a basic principle of integral theory. Perspectivism holds that all knowledge, beliefs, or facts are inherently partial because they derive from a particular perspective, enfolding and disclosing particular reality domains.

This can be illustrated by the mountain analogy in which the mountain symbolizes reality (Sattler, 2008). If you look at a mountain from one side, you get a certain view. For example, you may find that the mountain is steep. However, if you look at the same mountain from another side, you may find that the mountain is not steep. This analogy does not just tell us that no perspective can claim to reveal the absolute truth. Rather, the main conclusion to be drawn is that perspective precedes perception, or actually; they go together or 'tetra-mesh'. To have a perception of there being a steep mountain, is to take a particular perspective. But to take that particular perspective, requires there to be a mountain with one steep side. Essentially, we need a subject (a 1st person), enactment ('perspective-taking' or 'a verb'), and an object (a 2nd or 3rd person). Perception requires duality (a subject and an object), but since there is no subject or object without a relation between the two, perception is actually perspectival (relational). Language is a system build of these perspectives. Communication is an exchange of a set of perspectives. Mutual understanding is a recognition of each other's perspective in intersubjectivity.

### 3.2.2 Theory of Integral Mathematics

Perspectivism holds that the 'Kosmos' (i.e.: all manifest existence) is built of perspectives, and integral mathematics is the numerical notation system for representing these relations. The Kosmos has an interior and plural dimension that the interaction of particles (singular exterior dimension) cannot account for, and so integral mathematics does not just signify the objective exterior relations between parts (3rd-person perspectives), but includes subjectivity (interiority) and intersubjectivity (plurality) to its system. We do not just touch each other exteriorly, but can relate interiorly or 'intersubjectively'. The inclusion of these perspectives is particularly important for deciphering '*commun*ication'.

Let us first try to make more sense of perspectives in the simplest way: We can start by thinking of a Kosmos consisting of three persons (or 'parts', or 'points', or 'holons') and call 1 the first person, 2 the second person, and 3 the third person. Every language actually has these three basic personal pronouns; 'I' (1st person), 'you' (2nd person), and 'he/she/it' (3rd person). Notice that whether a person is 1st-, 2nd- or 3rd-person already depends on the perspective. I am a 1st-person for myself (subject), but a 2nd- or 3rd-person (object) from your perspective.

Furthermore, as a result of being with three, all 'persons' have an inside as well as an outside and are a whole (individual) as well as part of something larger (culture/society; a 'we'). If there was only a 1st person 'I' (in the Kosmos), this person would not have an inside because there would be nothing outside of it. Just as I would not know myself without a second person outside of me, likewise we would not know ourselves, without something not-we, and so we need to *be with three*. All persons thus have three inborn dimensions in their being as well as three modes of consciousness to take on: 1) the subjective interior or 'I', 2) the intersubjective, when 'you' plus 'I' makes a 'we', and 3) the objective exterior 'it' or 'he,she,it'. I can feel into my own feelings (subjective), I can talk with you about this by putting it into words (intersubjective), and I can see your physical body in front of me (objective). Hence, all persons can be either 1st, 2nd or 3rd person, but all have three dimensions of their being as an object and can take up three perspectives as a subject. And so all relations can be denoted with the numbers 1, 2, and 3; the three basic perspectives that give rise to the three persons (the personal pronouns: 1st-, 2nd- and 3rd-person), three modes of consciousness (or the three validity claims) by which we understand three reality domains (subjective, intersubjective and objective). We do not just linguistically relate to each other through the three personal pronouns, but the Kosmos universally 'relates' (sees, does, knows and is) through these three ways (subjective, intersubjective and objective). The three persons (or 'points', or 'parts', or 'holons') call the interior/exterior and singular/plural dimension into being because I (any 1st-person) would not know myself without you (any 2nd-person), and we (interior plural) would not know ourselves without him (any 3rd-person) or something other (objective) outside of us. The four quadrants and three persons thus represent the same metaphysical foundation.

The basic perspectives become apparent through the syntax of language, particularly through the personal pronouns. 'I' is a referential indexical sign; the referential aspect of its meaning is '1st person singular' while the indexical aspect would be the person who is speaking. Every language system utilizes pronouns not to refer to actual people but to perspectives that persons can enact. 'I' doesn't necessarily mean Tim, but always refers to a subject who is speaking or enacting a first-person perspective; and this perspective is always situated in relation to other sentient beings, other first, second and third persons. As Wilber suggests, because of this, pronouns actually embed a universal mathematics of perspectives in their structure (Wilber, ). Pronouns do not just resemble interpersonal relations, such as in 'I see him', but any possible perspective or relation, that is: any appearance of being. Any time I take up a stance, a perception, a feeling, a view, an awareness, it is always already situated in relation to something other. Even when 'I feel myself', there is a subject, enactment, and an object. These relations are captured in pronouns, which, as the word itself suggests, are *pro*-nouns (or *pre*-nouns): something prior to nouns that all nouns must follow. The pronouns refer to positions/perspectives that sentient beings inhabit by virtue of existing in a world of other sentient beings – a world build of three fundamental perspectives or 'persons' and thus of interior/exterior and singular/plural dimensions. Pronouns do not refer to Tim, Noelle, or Gerard - but to the *perspectives* that all proper nouns (Tim, Noelle, Gerard) have available to them, universally. Because these perspectives, as they are captured in the pronouns of language, are abstractions to some degree (namely, 'I' does not necessarily mean Tim, but always any subject anywhere; and 'she' does not necessarily mean Noelle, but always any third-person anywhere), then language already embeds a universal mathematics. The relations among pronouns are relations among sentient beings wherever they arise. They are universal/abstract, in the sense that they are not tied to any specific noun, and so they embed a universal or context-transcending aspect.

The trans-metaphysical theory behind this holds that the Kosmos is not built of objects (materialism), nor of subjects (idealism), but of perspectives that relate subjects and objects into a particular relation, a particular horizon. Perspectives are not perspectives on (or of) a pregiven reality or universally given world; rather, each perspective helps to enact or bring forth a phenomenological world (hence, the enactment principle). Language resembles the basic modes of our consciousness and inherently the basic relations in the Kosmos. Universes come into being when sentient beings perceive/touch each other. There is no pure perception in which one entity sees another entity, for that is *already* a first-person *perspective* on a second or third person. In other words, there is no real space that is not always already a space-arising-as-a-perspective (which is the same as saying that space is not absolute but relative, or actually; that there is only space when there are three points or 'persons'). To measure space we actually need three points; space is three-dimensional (3-manifold in mathematics). This does not mean 'to be is to

be perceived', for that implies there is being per se that can be perceived; nor is this to say that perception creates being (subjective idealism), for that implies that perception itself exists apart from something perceived. This is rather to say that being and knowing are the same event within the set of perspectives arising as the event. Because there can be no interior without an exterior, no subject without an object, no singular without a plural, every language is built of three personal pronouns that each have an singular/plural and subjective/objective form. Communication signifies the relation between subject/object, interior/exterior, individual/plural through the three pronouns/perspectives, and integral mathematics uses abstractions of these perspectives - the numbers 1, 2, and 3 - to connect it to metaphysics. But if we use only the numbers 1, 2, and 3, then how can we differentiate between subject/object, interior/exterior and inside/outside?

### *3.2.3 Integral Mathematics: Persons and Perspectives*

First, reconsider that the 1$^{st}$, 2$^{nd}$ and 3$^{rd}$ person refer to actual persons (holons) from a particular perspective, but also inherently indicate the four quadrants (interior/exterior and singular/plural) through the three dimensions/perspectives of subjective (I), intersubjective (I + you = we), objective (he/she/it) *of each and every person* (holon). We can thus think of a person in a quadrant, of a person taking a quadric perspective/mode and of having quadric dimensions. All perspectives can thus be represented with only three numbers. For now, notify that if we talk about *perspectives/dimensions within persons* we can use the 3 ('The Big Three model') and 4 ('The Quadrant model) interchangeably (the three just fuses interobjective and objective as displayed in figure introduction). If we are talking about the distinct *persons*, it is always 3 (there are only three personal pronouns). This differentiation will become apparent in '3.3.3 Communication and Mutual Understanding' in which we see that each of the three personal pronouns has four forms (singular/plural, subjective/objective).

To begin with, in integral mathematics "1p" is first person, "2p" is second person, and "3p" is third person, meaning actual but nonspecific persons. In addition, "1-p" with a hyphen stands for a first-person perspective or mode of consciousness (just as "2-p" and "3-p" refers to second-, and third person perspectives) relative to the person making the assertion. So a first person can take up a third person perspective, notated as [1p(3-p)], and a third person can take up a first person perspective [3p(1-p)]. This difference indicates that people can take up different 'points of view'. In short, I cannot feel what you feel, but since I know that you have feelings (by having subjectivity of my own), I can make an assertion about your feelings: I can see you as a first person subject.

Let's clarify this in two steps. First, if I make an assertion, I would say that I am the first person (1p) speaking to you (2p). If I am expressing myself to you, I would have to say that your second person has a first person: 2p(1p). This means the first person of the second person I am talking with. Likewise, "he" is not merely a third person (3p), like an insentient object as a car, but a third person who is also aware and prehensive: 3p(1p). This means the first person of the third person I am talking about. Thus, if I am aware of you, it is not merely 1p x 2p, but rather, my first person is aware of you, which has its own first person: 1p(1p) x 2p(1p), which means, my first person is speaking with your first person.

Second, I can approach your consciousness as a subject in dialogue or an object to be studied, depending whether I am aware of your person in either a first-person (1-p) mode or a third-person mode (3-p). So in simple terms, 1p x 1-p x 2p stands for approaching you in a first-person mode, and 1p x 3-p x 2p stands for approaching you in a third-person mode. If I have a subjective view of you, (my first person knows, in a first-person mode, your first person) this is notated as 1p(1p) x 1p(1-p) x 2p(1p). And in the third-person mode, the notation would be 1p(1p) x 1p(3-p) x 2p(1p); I am seeing you in an objective fashion (my first person knows, in a third-person mode, your first person). In these two cases I see you as a first person, but from a first-person mode and third-person mode respectively. Would I be a scientist trying to study you but only in a third-person mode, that would be, 1p(1p) x 1p(3-p) x 2p(3p), which means, my first person has a third-person view of your third person (in which 'your third person' means those aspects of you that are only objective and can be studied as an object, such as your mass, energy, biochemistry, etc.). So 1p(1p), 2p(1p), 3p(1p) indicates a 1st, 2nd, or 3rd person's first-person interior, and 1p(3p), 2p(3p), 3p(3p) indicates 1st, 2nd, or 3rd person's third-person exterior.

Let's take the next step in integral mathematics and see what happens if we introduce plurality. In communication, *mutual understanding* refers *not* to a shared subjectivity (two people have two different perspectives by the mere fact that I am here and you are there), but to a shared understanding of all subsequent perspectives, starting from two distinct 'first persons'. Mutual understanding indicates that interlocutors understand each other's perspective (they are able to take the other's perspective and thus understand the other's perception). For example, there is *mutual understanding* when my first-person understanding of your first person equals your first-person understanding of your first person. There is mutual understanding when my first-person view (understanding/interpretation) of you, 1p(1p) x 1p(1-p) x 2p(1p) (which means, my first person has a first-person view of your first person), matches your view of yourself, 2p(1p) x 2p(1-p) x 2p(1p) (which means, your first person has your first-person view of your first person). Hence, mutual understanding would be notated as follows: 1p(1p) x 1p(1-p) x 2p(1p) = 2p(1p) x 2p(1-p) x 2p(1p). This is the most basic form of *mutual understanding*, when my first-person understanding of your first person equals your first-person understanding of your first person. This is when we say "we understand each other".

In communication we do not only have first-, second-, and third persons, but also singular and plural forms of each of those terms. In fact, without the plural (without 'you' and 'me' making 'we')  there would be no communication at all. Plural forms refer to an acknowledgement of hermeneutic circles. The mathematical notion now might get too complicated, but important is to recognize the basic syllogism. Regarding the notation: first person plural is notated as [1p*pl], referring to the objective form "we", or subjective form "us". A hyphenated first-person plural is [1-p*pl] and refers to "our" view, which is the possessive pronoun. So when "I think we agree that Mike is a creationist", this is: 1p(1p) x 1p*pl(1-p*pl) x 3p(1p). It means; my first person has a perception of our (first-person plural) perception of Mike's first person. You have your understanding of how we see Mike, 2p(1p) x 1p*pl(1-p*pl) x 3p(1p). This means, your second person has a perception of our view of the third person's first person. If you agree with my view of how we see Mike, then: 1p(1p) x 1p*pl(1-p*pl) x 3p(1p) = 2p(1p) x 1p*pl(1-p*pl) x 3p(1p). This is where integral math gets somewhat far-fetched, but the main point here is to demonstrate that the equation does not just indicates mutual understanding, but a recognition of the hermeneutic circle. We both refer to our hermeneutical circle in which we understand each other. It is not that I and you hold the same perspective, *we* think *we* have a similar perspective; we make claims about *our* perspective, our hermeneutic circle. Hermeneutics indicates the established intersubjectivity, or cumulated shared 'meanings' between interlocutors and thus to *our understanding*. This feeling of 'we', this identification with a hermeneutical circle plays a central role in group-dynamics and is signified by plural pronouns.

In the mathematical equations up to this point, we have differentiated, persons, modes, dimensions (and singulars and plurals). The attentive reader must have noticed that there is a pattern. In the above equations, we have three basic terms, which are divided by 'x'. For example, my subjective opinion of you: 1p(1p) x 1p(1-p) x 2p(1p), which means, my first person [1p(1p)] has a first-person perception [1p(1-p)], of your first person [2p(1p)]. The first term in this notation defines a *phenomenological space*; the second term a *mode*; and the third term a *dimension*. That is, the first term is a space in which phenomena arise; the second, the mode in which they arise; and the third, the dimension that is arising. So if we take this notation it can be read as: my I-space [1p(1p)] perceives you as a second person [2p(1p)] when I adopt a first-person stance [1p(1-p)], that is, when I adopt the stance of somebody speaking to you as a second person who bears a first person or 'I'. Or more simply: in my I-space, your first person appears in its second-person dimension when I see you from a first-person perspective. Or more abstractly: there exists an I-space such that your I-space appears as a second person when viewed from my first-person perspective.
So in short; in assertions such as 1p(1p) x 1p(1-p) x 2p(1p), the first term describes the space in which phenomena are arising; the second term describes the mode/perspective that is perceiving/enacting the phenomena; and the third term is the aspect, dimension, or perspective of the phenomena that is arising

or being registered in that space. The first term asserts existence, the second, the mode of existence, and the third, the dimension of existence.

We can couple this to the first paragraph of this chapter and clarify it with the help of the quadrant model. The first term indicates the person's phenomenological space. It consists of two parts - in our example: 1p(1p) -, the first part without brackets and the latter part between brackets. The first part, which is '1p' - without brackets -, refers to the actual person or the position of the person relative to the perspective of the first person; the person who is speaking. For example, in "He sees her", the "He" is a 3rd person from my point of view, in which I am the one making the assertion. It signifies whether the relation with the first person (me) is (intra)personal, interpersonal or impersonal. It basically defines people as an I, you or he/she/it as shown in figure 3.2.5a. This gives the following meanings:

1p, 2p, 3p                    1st, 2nd, or 3rd person singular
                              I/me, you, he/she/it
1p*pl, 2p*pl, 3p*pl           1st, 2nd, or 3rd person plural
                              we/us, you, they/them

The second part [(1p)], between brackets, stands for phenomenological space: I, you and he all have a phenomenological space: the space in which phenomena arise. When integral mathematics is used to denote perspectival expressions this is always a number 1. So when a sentence is translated into integral mathematics, it starts with 1p(1p), 2p(1p) or 3p(1p). This indicates that the sentence starts with "I", "you" or "he/she/it": the subjective form of the three persons, or a person as subject. This is because any phenomenon that arises, always arises in an interior space, or in other words: without a subject, without something that prehends, nothing would be seen/known. This makes utterly clear that we can only know what we know. Whether our knowledge reflects something in the exterior world or not; knowledge is by definition interior. Anything that arises as a phenomena, always arises in an interior space, whether it is mine, yours or his. Whatever we think or feel; these are always thoughts and feelings, that is; interior. Another explanation is that the first term refers to the thing that enacts another thing, or the subject that enacts an object; and subjects are always subjective (the subject of a sentence is always in the subjective form of a personal pronoun). Without the subject, without anyone perceiving, no phenomena would appear. See figure 3.2.5b. This does not mean that only individual interior things exist (subjective idealism), which is a form of absolutism, but just that is has its place in the Kosmos (it is a phenomenological space).



Figure 3.2.5 Person, Phenomenological space, Mode/Perspective and Dimension in Integral Mathematics (Tim Stevens, 2012)

The second term also consists of two parts, such as 1p(1-p), of which the first part (without brackets) indicates, again, the person, and the second part (between brackets and with a hyphen) indicates the perspective or mode of consciousness. The number 1 [(1-p)] is used for a first person perspective, which is the feeling of the inside, and number 3 [(3-p)] for a third person perspective, which is the look on the outside. In other words; knowing from a subjective stance (by acquaintance) and knowing from an objective stance (by description) respectively. Focusing on the second part of the second term, these make the following equations:

| | |
|---|---|
| (1-p) | 1$^{st}$-person mode or inside-view |
| (3-p) | 3$^{rd}$-person mode or outside-view |
| (1-p*pl) | 1$^{st}$-person plural mode. |
| (3-p*pl) | 3$^{rd}$-person plural mode. |

Combined with the person, the complete second term can be as such:

| | |
|---|---|
| 1p(1-p) | I subjectively feel inside |
| 1p(3-p) | I objectively look at outside |
| 3p(1-p) | He subjectively feels inside |
| 3p(3-p) | He objectively looks at outside |

This gives us the following possibilities for the second term:

| | |
|---|---|
| 1p(1-p), 2p(1-p), 3p(1-p) | 1$^{st}$, 2$^{nd}$, or 3$^{rd}$ person's first-person view. |
| 1p(3-p), 2p(3-p), 3p(3-p) | 1$^{st}$, 2$^{nd}$, or 3$^{rd}$ person's third-person view. |
| 1p(1-p*pl), 2p(1-p*pl), 3p(1-p*pl) | 1$^{st}$, 2$^{nd}$, or 3$^{rd}$ person first-person plural view. |
| 1p(3-p*pl), 2p(3-p*pl), 3p(3-p*pl) | 1$^{st}$, 2$^{nd}$, or 3$^{rd}$ person's third-person plural view |
| 1p*pl(1-p*pl), 2p*pl(1-p*pl), 3p*pl(1-p*pl) | 1$^{st}$, 2$^{nd}$, or 3$^{rd}$ person plural, first-person plural view |
| 1p*pl(3-p*pl), 2p*pl(3-p*pl), 3p*pl(3-p*pl) | 1$^{st}$, 2$^{nd}$, or 3$^{rd}$ person plural, third-person plural view |

Up to this point we have a person's phenomenological space (first term) and the perspective (second term). For example, 3p(1p) x 1p(1-p), which is "He feels the inside", or 1p(1p) x 1p(3-p), which is "I look at outside". We now only need to know what the person is seeing with this perspective. What dimension is being enacted? What inside does he feel and what outside do I look at? Do I look at my own outside or his outside? This is what the third term tells us.

The third term indicates the dimension of the phenomena that is being enacted. Number 1 for interiors, number 3 for exteriors. Would I be in conversation with you and try to understand you (your interior), this would be: 1p(1p) x 1p(1-p) x 2p(1p). Would I be a scientist trying to study you but only in a third-person mode, that would be, 1p(1p) x 1p(3-p) x 2p(3p), which means, my first person has a third-person view of your third person (in which 'your third person' means you as an object, such as your physical body). The third term is often differentiated from the first term with a slash, such as 2p(3/p), to denote that it is the object and not the subject. Since the object is defined as object and not a subject, it is at that point that the perspective ends (objects do not have perspectives).

The three terms together describe that in my 'phenomenological space' [(1p)], I am the 'first-person' [1p], you are the' second-person' [2p], and he is the 'third-person' [3p], so that I can talk with 'you' [2p(1p)], about 'his shoes' [3p(3/p)]. Taken together we can give the following swatches:

| | |
|---|---|
| 1p(1p) x 1p(1-p) x 3p(1/p) | my first person has my first-person view of her third person's interior |
| 2p(1p) x 2p(1-p) x 3p(1/p) | your first person has your first-person view of her third person's interior |
| | |
| 1p(1p) x 3p(1p) x 3p(1/p) | my first person takes his first person's perspective of her interior |
| | "I think that Mike feels that Sara is upset." |
| 2p(1p) x 3p(1p) x 3p(1/p) | your first person view takes his first person's perspective of her interior |
| | "You think that Mike feels that Sara is frustrated." |
| | |
| 1p(1p) x 3p(1/p) = 3p(1p) x 3p(1/p) | my view of Mike's interior compared to his view of his interior |
| 2p(1p) x 3p(1/p) = 3p(1p) x 3p(1/p) | your view of Mike's interior compared to his view of his interior |
| 3p(1p) x 3p(1/p) = 3p(1p) x 3p(1/p) | Sara's view of Mike's interior compared to his view of his interior |
| | |
| 1p(1p) x 2p(1p) x 1p*pl(1/p*pl) | my first person's perspective of your first person's perspective of our shared interior |
| | "I feel that you feel that we share a deep bond of friendship" |
| 2p(1p) x 3p(1p) x 2p*pl(3/p*pl) | your first-person's perspective of Mike's first person perspective of y'alls shared behaviour |

These are the basics of integral mathematics necessary to understand linguistic expressions, communication, mutual understanding and conflict, which we will deal with in the succeeding paragraphs.

### 3.2.6 Integral Mathematics and Framing

We have explained integral mathematics only elementary so that the system is understood. Integral mathematics can describe perspectives, on perspectives, on perspectives ad infinitum, and so notations can get infinitely complex. In fact, the different types of perspective-taking that enact different phenomena in each of the quadrants bring about over 1,700 perspectival expressions, fully outlined by Fuhs (2007). As Fuhs says: "The integral map of human perspective-taking is complex. So complex in fact, that it may seem useless. But, if we step back and consider what this map is truly describing [...] its complexity appears in a different light, possibly as the simplest way to portray a reality that is indeed far more multifarious" (2007, p24). The perspectives of integral mathematics symbolize how we understand the world (interiorly in our minds) or represent the world (exteriorly in language), but it also shows that perspectives actually bring the world into being. The activity of perspective-taking -inherent in every linguistic expression, the exchange of which (i.e. 'communication') allows for mutual understanding- constructs a particular social reality. Perspective-taking enables us to understand the other, to understand the self, and to mutually understand the world.

In this paragraph we have *not* introduced a new theory: integral mathematics is not different from the basic principles of integral theory already explained. Integral mathematics is just the most abstract conceptualization of perspectives. Perspectives can represent both exterior talk as well as interior thought. Hence, the world-views in the previous chapter (the conceptual level or the interior dimension), as well as the writings on the CE-Groups (the empirical level or exterior dimension), can be signified in terms of integral mathematics. We do not use the notation-system in the framing-analysis. Integral mathematics is used to understand perspectives at their most fundamental level. This allows us to connect the exterior dimension (talk) with the interior dimension (thought), empirical level with the conceptual level, and the methodology to produce results, with the theory to analyze these results.

Although integral mathematics is a numerical and computable system, we do not apply it as a positivistic method for quantitative analysis. As pointed out in 'Methodology', we 1) *observe* language (exterior), 2) *interpret* linguistic action as being inherently *indicative* of the expression of "I", representation of "It" and appeal to "you", and 3) hold that the linguistic expression *represents* what the interlocutor thinks; not as an honest description of his/her interiority ('I'), but as an action that involves bringing together the three dimensions of reality. Hence, exterior talk *represents* interior thought, but it necessitates a correct *interpretation* of the linguistic expression, to say something about a particular dimension, such as the speaker's interior ('I'). A linguistic expression is not just 'uttered' or 'acted' to describe reality, but also to change social reality. In "How To Do Things With Words" Austin (1911) explains that a linguistic expression is not just constative ('descriptive'), but can also be performative, and that a speech act can be analyzed on three levels: a locutionary act (direct meaning of utterance), a illocutionary act (intended meaning of utterance), and a perlocutionary act (effect of utterance, e.g. persuasion, flaming) (Searle, J. 1979). In this paragraph we have analyzed the linguistic expression as constative (direct description of a metaphysical reality). In the next paragraphs we will consider the linguistic expression as a performative act. This means that we use integral mathematics to understand the linguistic expression in the context of communication and mutual understanding.

## 3.3 Communication, Language and Perspectives

In this paragraph we relate the perspectives of integral mathematics to language, communication and mutual understanding. First in 3.3.1 we show the relation between the perspectives of integral mathematics and language. Second in 3.3.2 we show more particularly how the personal pronouns indicate perspectives. Third in 3.3.3 we focus on the role of perspectives in the wider context of communication and mutual understanding.

### 3.3.1 Perspectives and Language

Integral mathematics might seem very complex but it is the minimal notation for comprehensively deciphering language and communication. The perspectives, which we have notated mathematically, transpire in language. In the simplest sense, every sentence contains a subject, a verb, and an object - subject enacts the object -, thereby revealing that there is no object without the subject, but also no subject without the object. Subject and object do not just 'coexist', they 'interdepend' - they come into being only as a relation, as a phenomenal perspective. This indicates the enactment principle of perspectivism. We cannot have a subject and an object without enactment: they come into being together (coincide) when the subject enacts an object (through the verb). A noun or person can be both the object or the subject; I can look at him and he can look at me. 'I' is $1^{st}$ person singular-subjective, 'him' is $3^{rd}$ person singular-objective, 'he' is $3^{rd}$ person singular-subjective and 'me' is $1^{st}$ person singular-objective. So, if 'I am Tim' I can take up any form ($1^{st}$, $2^{nd}$ and $3^{rd}$ person, and singular/plural and subjective/objective) depending on perspective-taking. Nouns follow the grammatical rules of pronouns and pronouns only manifest in singular/plural form *plus* subjective/objective form, making 4 versions of each personal pronoun (for the $1^{st}$ person respectively: I (singular-subjective), me (singular-objective), we (plural-subjective), us (plural-objective). In sum this means that each 'person' (or 'holon') can be seen in four dimensions, and that each person can see (or 'enact') four perspectives to disclose a particular world. In other words: I can *be enacted* in the form of a particular personal pronoun (a grammatical person), and I myself can enact these dimensions by the use of language. The subject-object relation signifies why the quadrants are often phrased 'perspective-dimensions'. Holons (persons or (pro-)nouns) enact through particular quadrants. The interior/exterior and singular/plural line thus form 'the four quadrant window-frame' through which the Kosmos sees, knows, does and is.

Just as integral mathematics is an abstraction of the Kosmos, so is a pronoun an abstraction of a noun. This is why we stated that "I" (a pronoun) does not mean an actual person like "Tim" (a noun), but any *singular subject* who is speaking or enacting *first-person* perspective; and this perspective is always situated in relation to other sentient beings, other first, second and third persons. Language thus represents an intricate system of perspectives, not of unrelated pre-given beings. The pronouns reveal these perspectives and are our focal point of attention.

### 3.3.2 Personal Pronouns as Perspectives

In integral mathematics we explained that any perspective always starts with 1p(1p). Fuhs called this 'the hidden term'. You are a 'you', a second person, from my perspective. Even in 'You think that Mike feels that Sara is reluctant to listen', which is 2p(1p) x 3p(1p) x 3p(1p), 'you' is 2p, and since a second-person can only be second in relation to my first person –the one who is making the assertion– the 1p(1p) is left out. Hence, if we are to make sense of communication, we need to be aware that all perspectives start from the actual first person who determines who is 1p, 2p, and 3p. This gives the triadic personal pronouns or 'grammatical persons'; the first-person (I/we), second-person (you) and third-person (he/she/it). These refer to the location of persons: I am here, talking to you, about him. Only after a triadic person is depicted we can look at modes of consciousness and the dimensions of the particular person. We thus first determine someone as a first-, second, or third-person, (the intrapersonal 'I', the interpersonal 'you' and the impersonal 'it/he' respectively) and then can understand the person or holon, in a particular dimension (quadrant). So rather than fusing spaces, modes and dimensions all in one model,

we can make a quadratic representation of each triadic person (the three grammatical persons). That is, 'I' have various aspects: interior-individual (consciousness), exterior-individual (behavioral), interior-collective (cultural), and exterior-collective (social), and within my consciousness I can be aware of these dimensions within myself as well as in the world or 'others'. And this also goes for you (2nd person) and for him (3rd person). So rather than placing a holon, or a person, within a quadrant, we should understand each holon to comprise four dimensions. Since each person 'inhabits' these four dimensions, it can also enact or understand other persons in these dimensions. The system of personal pronouns that represents the first-, second-, and third-person perspectives ('triadic perspectives') actually includes singular and plural pronouns as well as subjective and objective pronouns ('quadratic perspectives') to indicate these dimensions. These four types of pronouns (singular and plural plus subjective and objective) correspond perfectly with the four perspectives in Wilber's quadratic model (individual and collective, interior and exterior). Therefore, each of the first-, second-, and third-person perspectives (triadic pronouns in figure 3.3.2a) has its own quadratic pronoun (figure 3.3.2b) that perfectly tracks the intentional-behavioral-cultural-social aspects of each personal perspective. Because both the triadic perspectives and the quadratic perspectives are interdependent and irreducible in their own separate ways, the integration of the two models produces a single set of interdependent and irreducible 'triadic quadratic perspectives': the personal pronouns. Personal pronouns 'signify' or *denote* perspectives. What these perspectives 'indicate' or *connote* will be elaborated later in this chapter. In '3.4.2. Framing and Group Formation' we explicitly look at the how the use of particular personal pronouns is indicative of interpersonal relations and group formation. This is mainly used for the identity-framing analysis of chapter 5.
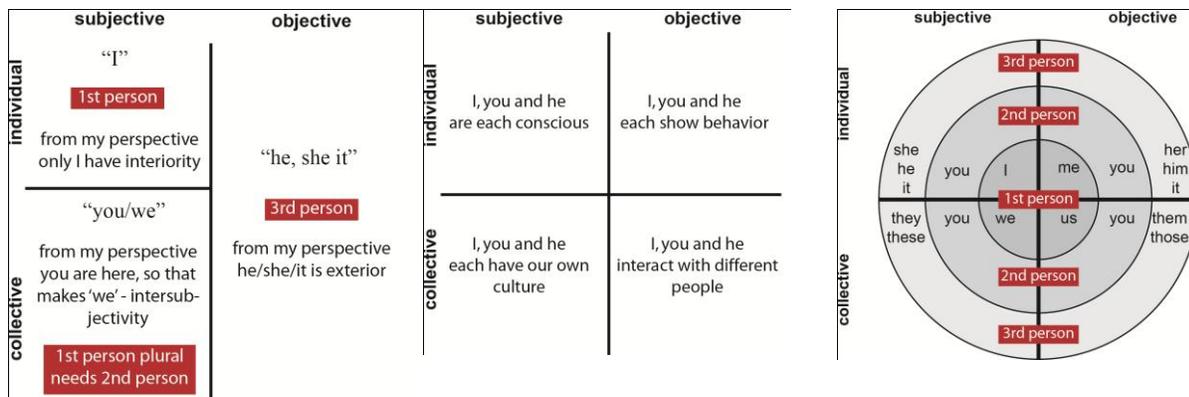
Fig 3.3.2a Triadic perspectives
Persons: 1p, 2p, 3p (step 1)
(Tim Stevens, 2012)

Fig 3.3.2b Quadratic perspectives
Dimensions: (1/p), (3/p) (step 2)
(Tim Stevens, 2012)

Fig 3.3.2c Triadic Quadratic perspectives
Combination of 1p(1/p) and the like (step 3)
(Tim Stevens, 2012)

| 1.Triadic perspective | 1st person | | | | 2nd person | | | | 3rd person | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2. Quadratic perspective** | singular | | plural | | singular | | plural | | singular | | plural | |
| | sub | ob | sub | ob | sub | ob | sub | ob | sub | ob | sub | ob |
| **3. Triadic Quadratic perspectives** | I | me | we | us | you | you | you | you | she/he/it | her/him/it | they/these | them/those |

Fig 3.3.2d overview of triadic, quadratic and triadic quadratic perspectives (Tim Stevens, 2012)

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There is a certain coherence to the 3 x 4 personal pronouns. All quadratic pronouns are comprised of an internally consistent set of singular-subjective, singular-objective, plural-subjective, and plural-objective pronouns corresponding, respectively, with the intentional-UL, behavioral-UR, cultural-LL, and social-LR perspectives. All triadic quadratic pronouns are comprised of an internally consistent set of 1st person, 2nd person, and 3rd person quadratic pronouns. This means that when a certain perspective is enacted (a pronoun is chosen), all other pronouns follow this 'first-person perspective', averting senseless sentences such as "he is telling I about our". So the use of any particular pronoun (or noun) in thought or communication always implies three other pronouns that constitute the specific quadratic pronoun, and eight additional pronouns that constitute the remainder of the specific triadic quadratic pronoun already operative in the action situation.

The first-person perspective represented at the centre of the triadic quadratic perspectives is always the person who is taking the triadic quadratic perspectives and this first-person is always represented in the intentional-UL and behavioral-UR by the singular-subjective and singular-objective pronouns I-Me (the actual person making the assertion). Within each of the second-person and third-person perspectives however, there is a derivative triadic quadratic perspective owing to the fact that whomever is acknowledged as a second-person or third-person in relation to some first-person is a person in his or her own right and therefore the centre of his or her own unique triadic quadratic perspectives. It is this set of triadic quadratic perspectives in figure 3.3.2c that co-arises in every actor's awareness and finds immediate expression in the system of pronouns. In communication, every person, that is, 1st person, 2nd person and 3rd person, has its own triadic quadratic perspectives on the same situation. So every linguistic expression may be understood in terms of three interdependent and irreducible perspectives (1st person, 2nd person, 3rd person) each of which includes four constituent interdependent and irreducible perspectives (intentional, behavioral, cultural, social), all of which are experienced intrapersonally (1st person perspective), interpersonally (2nd person perspective), and impersonally (3rd person perspective) from within each of the actor's three distinct personal perspectives. In communication we can naturally take up the other's triadic quadratic perspectives (2nd derivative) and understand what 'you' (the 2nd person) mean by saying "I think you thought that I did this to offend him"; understanding that your 'I' means 'you' to 'me'. Hence, mutual understanding requires persons to take up the other's triadic quadratic perspectives. Note that in cognitive science and communication science, taking the other's perceptive is referred to as 'perspective-taking', whereas in this research, 'perspective-taking' is simply the enactment of any perspective of any person. As earlier defined, perspective-taking is inherent in every linguistic expression, the exchange of which (i.e. 'communication') allows for mutual understanding: the construction a particular social reality. Perspective-taking enables us to understand the other and to mutually understand the world.

### 3.3.3 Communication and Mutual Understanding

So far we have looked at the relation between perspectives and language. We will now focus on the role of perspectives in the wider context of communication and mutual understanding. In the framing-analysis this is used to understand the linguistic expression as a communicative act.

We have three modes of consciousness that allow us to become aware of three domains of reality discernible in all major languages - subjective, intersubjective, objective -  through pronouns that represent first-, second-, and third-person perspectives (I, you, and he/she/it). These are, so to speak, three different worlds, which we can perceive and judge distinctly, but co-arise in our awareness. The three personal pronouns are thus no coincidence; they came forth from our tacit knowledge of the three fundamental perspectives. We have an inborn feeling for language because it expresses our modes of consciousness, and our modes of consciousness express the fundamental relations within the Kosmos.

The three perspectives/worlds were already rooted in the work of Karl Bühler (1934). We gave a first glimpse of this in the Conceptual Framework (figure V), which we will now explain in greater detail to connect it to the concepts of communication, mutual understanding, and conflict, for our framing-analysis.

Bühler states that every linguistic expression ('a sentence' if you will) always simultaneously relates to the speaker (sender), the hearer (receiver), and the world. The three aspects of a speaker coming to an understanding with another person about something are reflected therein. He distinguishes three functions of the use of signs: the cognitive function of representing a state of affairs, the expressive function of

making known experiences of the speaker, and the appellative function of directing requests to addressees. Therefore, by virtue of the three ways in which each sign can be understood, every linguistic expression simultaneously functions as an expressive symptom of the speaker/writer, an appellative signal to the hearer/reader, and a representative symbol of the world. Based on the work of Bühler, Habermas (1979) proposes that all communicative actions either explicitly or implicitly raise and redeem 1) three validity claims that correspond with 2) three domains of reality to which the action relates, and 3) three performative attitudes, or modes of communication, that can be adopted by the actor. Language is fundamental to Habermas's view of human action because the use of language itself raises and redeems these validity claims and structures the domains of reality to which actors relate in the three communicative modes they can adopt with every expression. Our modes of consciousness (subjective, intersubjective, objective) are thus directly represented in the theory of Habermas, as modes of communication (expressive, confirmative, objective). In adopting the various communicative modes and in making specific claims of truth, rightness, and truthfulness, the communicative actor is simultaneously accessing his or her own consciousness of all that is true, right, and truthful - the actor's own particular perspective on the three domains of reality.
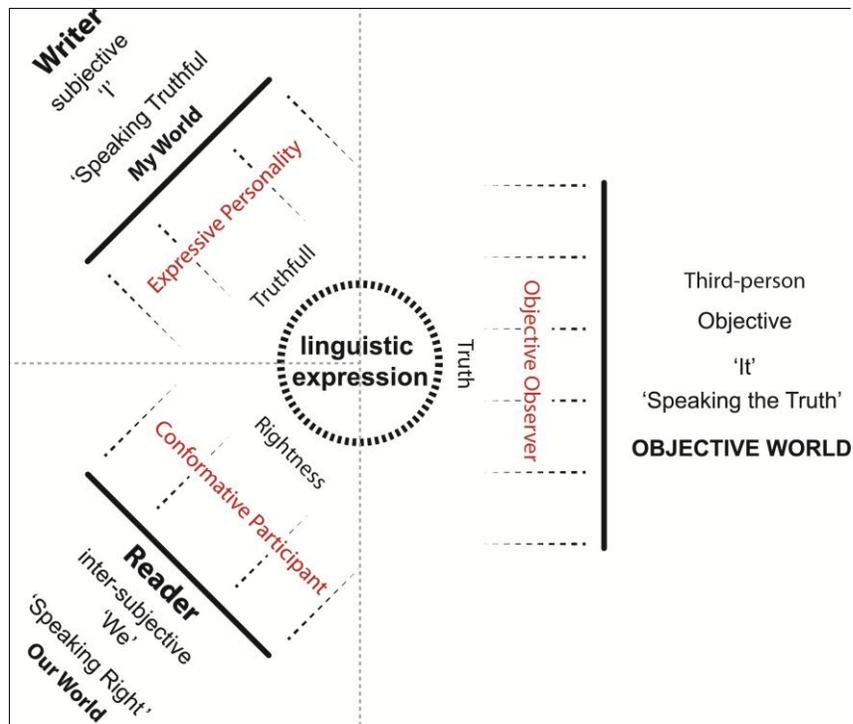


Figure 3.3.3 The three validity claims in communication. Note that in this model, the linguistic action is represented from the (writer's) first-person perspective (1st derivative) in which the writer is in the *in* the subjective world and the reader *in* the intersubjective world. In reality however, both the writer and reader obviously inhabit all three dimensions, and the writer and reader, together, create the 'we-world'.

According Habermas, mutual understanding can be achieved through communication only by fusing the perspectives of individuals, which requires they reach an agreement (even if it is only assumed) on the validity of the linguistic expression being shared. In his theory of 'communicative rationality', Habermas explains that since every communicative act inherently claims a three-fold validity, speakers/writers are inviting hearers/readers to evaluate the claims offered and respond with their own counter-claims, thereby initiating the 'reasoned pursuit' of mutual understanding. Communicative rationality is a view of reason concerned with the norms and procedures by which agreement can be reached, and is therefore a view of reason as a form of common justification and mutual understanding.

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Each of the three dimensions has a different `type of truth' or validity claim - different types of knowledge with different types of evidence and validation procedures. Building on Immanuel Kant's triadic partition of reason, "Habermas's communicative reason differentiates and integrates what are traditionally referred to as the Aesthetic reason of intrapersonal sincerity, the Practical reason of interpersonal rightness, and the Theoretical reason of impersonal truth" (O'Connor, D. 2012). In integral terms, propositions in the Right-Half are said to be true if they match a specific fact or objective state of affairs: a statement is true if the map matches the territory - so-called objective truth (representational truth and the corresponding theory of truth). In the Upper Left, a statement is valid not if it represents an objective state of affairs but if it authentically expresses a subjective reality. The validity criterion here is not just truth, but truthfulness or sincerity - not `does the map match the territory?' but `can the mapmaker be trusted?' We should realize that there is no other way for me to get to know your interior than by asking you questions and trust you for a truthful account of your interior. In the Lower Left, the validity claim concerns the way that my subjective consciousness fits with your subjective consciousness, and how we, together, make sense of the world. The validity claim, in other words, concerns the appropriateness or justness of our statements and actions. Not, is it true, but is it good, right, appropriate, just? In answering these questions we find ways, not simply to access objective truth or subjective truthfulness, but to reach mutual understanding in a shared intersubjective space (not that we agree, but that we can recognize ('understand') each other).

Every linguistic expression inherently relates to the three dimensions and makes three validity claims. However, as O'Connor points out, "While it is certainly possible to craft a statement that engages all three modes in relative balance, thereby explicitly issuing claims to all three types of validity in relation to all three domains of reality, it is far more common that just one of the communicative modes is given primary emphasis" (O'Conner, D. 2012). This is evident in the linguistic expression. Hence, disputants generally focus on a particular domain, using a particular mode of consciousness, a particular mode of communication, and using a particular rationality or type of justification. For example, a disputant can write about 'The Origin' as an actual exterior event (the Big Bang), making truth-claims about the Big Bang theory and justify this with particular facts and findings. Other disputants can refute the truth-claim with counter facts and findings or present a different truth-claim. However, a disputant might also shift the conversation and share his near-death experience in which he claims to have seen the origin of all, thereby shifting to a subjective mode of consciousness (feel into his experience), an expressive mode of communication ("I felt one with all"), and claiming to be truthful by an expression of his intention ("I am not religious, and I am not trying to convert you, this is simply what I experienced"). This frame-shift is commonly answered by discussing the validity of his experience and questioning his truthfulness, or by accepting his truthfulness and discussing whether this experience is representative for the objective truth of the Big Bang (hence, shifting back to Right-Hand modes). In this case, there is a 'reasoned pursuit' of mutual understanding because a certain claim is mutually agreed upon (the sincerity of the writer), and then the disputants pursuit the meaning of this experience, or how it represents an objective truth.

Since we do a framing-analysis of a discussion, most sentences are (part of) arguments. Typically an argument has an internal structure, comprising the following: 1) a set of assumptions or premises/reasons, 2) a method of reasoning deduction/induction, and 3) a conclusion or claim (Stanford Encyclopedia of Philosophy, 2012). In our issue framing-analysis we will *not* look at the logic, validity or reasoning of the arguments, but we will look at how an issue is discussed: what *claims* are made based on what *premise(s).* In other words; what is discussed (interior/exterior), what type of claim is made (prescriptive/descriptive) based on what type of knowledge (knowledge by acquaintance/description, i.e. subjective/objective). There is a particular coherence ('logic') between these elements of argumentation, connected to particular linguistic forms, allowing interlocutors to decide what is valid in the 'reasoned pursuit of mutual understanding'. Positive statements or 'descriptive claims' make the implicit claim to facts (e.g. "evolution theory supports the fact that human beings descend from apes"), whereas normative statements make a claim to values or to norms (e.g. "I think evolution theory is bad for society because it supports a competitive lifestyle"). This is also referred to as the 'is/ought-distinction', clarifying the link with language. Opinions always tell something about the speaker/writer, the subjective interior domain, rather than about the exterior objective world (namely, how *the speaker sees* the world). However, there are both facts and opinions about the internal and external world. For example, if you have a headache, this

headache is subjective (it is an interior private experience), but this is not just your opinion, it is a fact. If an event is metaphysically subjective, claims about it can still be epistemologically objective, but facts about interiority can only be known by acquaintance, that is; by the subject.

Particular linguistic expressions or modes of communication in combination with particular dimensions inhibit mutual understanding and inflict conflict. A truth-claim (Right-Hand) about you, or your interiority (Left-Hand), is by definition unjustifiable (not necessarily false, but indefensible) since only the subject him- or herself has access to this interior space. For example if I say "You are too afraid of given up your religion", it might be a correct representation of your interiority (true), but only you knows if it is true. If you reject this claim, I might question your truthfulness, but again, only you know if you are truthful. This does not mean that I can say nothing about your interior. It means that if I want to reach some form of mutual understanding, I would need to connect the mode of communication and validity claim with the corresponding dimension. For example: "*I see* you have written that you feel comfortable among your religious friends (objective observer). *I think* religion provides you with certainty, at least; it did for me (expressive personality). *Are you* too afraid of given up your religion?" (confirmative participant). In this case I distinguish the three validity claims. You can react on each of these claims, and then we might be able to find each other in some modes, concerning some dimensions.

This technical theory of the relation between the three validity claims, three dimensions and three grammatical persons, is the fundament of some methods of 'reframing' used in conflict resolution. The concepts of 'I-message' and 'E-prime' are most revealing. We will shortly describe these because they show how we can interpret and understand the writings on Google Discussion Groups.

The concept of 'I-message' suggests that particular messages can better be framed from a first-person perspective, and thus as a subjective perspective, in order to enhance mutual understanding and inhibit conflict. A sentence that start with 'I' literally makes the first-person a subject, and shows how the subject relates to the object (such as 'you' or 'him'). On the contrary, in a 'you-message' the writer 'hides' the first-person (leaves out the 'hidden term') and makes a claim about you, as if it is unrelated to the first-person and thus objectively true. I-messages are often used with the intent to be assertive without putting the reader, the second person ('you'), on the defensive. They are also used to take ownership for one's feelings rather than implying that they are caused by the second person. The theory of the 'I-message' does not simply put that the speaker always must use the first-person as a subject, but that in order to reach mutual understanding about an interpersonal relation, such as in (identity-)conflicts, the 'I-message' must be build up in three phases: a non-blameful description of the reader's behavior, the effect of that behavior on the writer and the writer's feelings about that effect (Gordon, T. 1995).

E-prime is a version of English that excludes all forms of the verb 'to be', and is used for similar reasons as the 'I-message': to reveal subjectivity or 'perspectival relations', and reject 'the view from nowhere' or objectivity. The E-Prime versions of language communicate the speaker's interiority rather than judgment, making it harder for the writer or reader to confuse opinion with fact and thereby reducing the possibility of misunderstanding and/or conflict (Bourland, D., 1989). Korzybski. For example, a sentence such as "evolution theory *is* a disheartening notion of life" could translate into E-prima as "I find evolution theory a disheartening notion of life". Korzybski (1933) criticized the use of the verb "to be", and stated that, "Any proposition containing the word 'is' [or other forms of this verb] creates a linguistic structural confusion which will eventually give birth to serious fallacies" (1933). Scout, who wrote his book "Rewild or Die" (2010) entirely in E-Prime, made exactly clear how E-prime relates to validity claims and mutual understanding. In his rationale he wrote: "'To be' prevents us from experiencing a shared reality; something we need in order to communicate in a sane way. If someone sees something completely different than another, our language prevents us from acknowledging the other's point of view by limiting our perception to fixed states." So in the discussion on the origin, I might say "the Bible is a stupid book", and you might say, "the Bilbe is not a stupid book!" As Scout points out, in this case "We have no shared reality, for in our language, truth lies in only one of our statements and we can forever argue these truths". If on the other hand, I say "I hated reading the Bible," I  state my opinion as observed through my own senses. In Scout's words, "I state a more accurate reality by not claiming that [it] "is" anything, as it could "be" anything to anyone." This clarifies how the verb 'to be' invariably makes claims about one objective truth.

In the field of conflict management, it is assumed that conflict is always over a scarce good, whether actual or ostensible. A scarce good is objective truth, since there is only one. Whereas there is only one

objective truth there are multiple subjective realities. Leonard, B. (2004) summarizes what integral theory tells about conflict and resolution: "The integral resolution, in short, says that although the one objective world cannot contain many worlds, human consciousness can." This does not mean that the objective truth is not important, but that a conflict's real problem are divergent subjective realities, which do not surface when there is back and forth naysaying over one objective truth. To our understanding, this is just one of the valuable insides that integral theory provides. More generally, integral theory shows the relation between language, communication and mutual understanding. These relations are important for analysing and understanding the online creation-evolution controversy. In the next paragraph we show how this is used in the framing-analysis.

## 3.4 Framing and Integral Theory

So far, we connected perspectives with language, communication and mutual understanding. We defined framing as perspective-taking, and showed how perspective-taking is inherent in every linguistic expression, the exchange of which (i.e. 'communication') allows for mutual understanding (the construction of a particular social reality).
In this paragraph we make apparent exactly how a particular linguistic expression is an act of framing. In 3.4.1 the theoretical relation between framing, perspective-taking and integral theory is specified. In 3.4.2 we look at the implications of the use of particular triadic quadratic perspectives in the process of group formation. This is of interest for the identity-framing analysis. In 3.4.3 we show more elementary how every linguistic expression indicates a (momentary) metaphysical world-view. This is of interest for the issue-framing analysis.

### 3.4.1 Framing as Perspective-taking

We usually think of framing as the use of specific terms to accentuate a certain aspect of reality so that a particular interpretation of the exterior world becomes more salient over others. However, if we consider the integral model and the triadic quadratic perspectives, framing can be understood in a much more fundamental way, namely: as the selection of certain perspectives over others. Framing is not just about how people formulate something in the presumably already present pre-given exterior world, but about taking particular perspectives that 'preconsciously' disclose particular worlds, in which people might then highlight a particular attribute that arises in that particular world. For example, it can already be very telling whether disputants define others in their subjective, objective, singular or plural form, before focussing on what is then said about 'he', 'him', 'they', or 'them'. Subjective-singular forms prescribe agency (interiority, humanity) to the individual person, while objective-plural forms tend to dismiss a single person's agency. On the CE-Groups, disputants choose certain perspectives (persons/modes/dimensions) over others, and this determines *what* is 'framed' -perspectives disclose particular worlds and thus determine *what* arises. *How* this is then framed -the *attribute* that is then attached to the arisen reality-, is obviously important for our framing-analysis, but of later concern. We should not just look at what is said about 'him', but to the mere fact that he is acknowledged as a 'him': not a 'you', 'he,' 'his,' 'they,' or 'them'.

Within the integral model, all possible perspectives are enclosed or 'framed' in a neutral and fundamental way by the jointly exhaustive and mutually exclusive subject/object and singular/plural distinction, which creates the all-inclusive 'four-quadrant-window-frame'. The integral model (such as in the form of triadic quadratic perspectives) shows that when something is framed (included into the picture) other perspectives are automatically excluded from the picture. For example, when we frame someone as 'he', it becomes clear that we talk about him ($3^{rd}$ person - impersonal) *and thus not* to him ($2^{nd}$ person interpersonal). Moreover we see him in singular subjective terms (as subject), *and thus not* in plural objective terms (as part of an object). It not only shows what is inside the frame, it also makes utterly clear what is left out. This is why the integral model is so useful for framing-analysis. It allows us not only to make clear distinctions between frames, but also to see what is generally 'unframed' in the overall discussion. Particularly in this intricate debate -which is wide-ranging (multilateral) and deep-reaching

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(metaphysical)- a trans-metaphysical framework is needed to differentiate frames in a clear, neutral and abstract fashion. The integral model, the triadic quadratic perspectives and derivatives in specific, enable us to see how a linguistic expressions is a pathway of perspectives on perspectives on perspectives through the entire possible relations of the Kosmos.

To understand framing in relation to integral theory, we first need to realize that when certain perspectives are selected -in thought or speech- the complete integral model is still there, as the underlying map of our mind which we use to navigate through the world. The integral model resembles innate perspectives of consciousness and intrinsic relations of the Kosmos. Although we can focus on one of the three reality domains, the integral model is always subconsciously used as a navigation model for interpretation. Hence, 'framing' cannot exclude a reality domain which is already intrinsic to our interpretation. We are -subconsciously- always aware of the three reality domains and how one navigates through this in language or consciousness. So what then is framing? If we focus on its interior dimension, is it just a temporary pathway through our consciousness or can it structurally effect how we think about the world?

Although the integral model is a neutral navigation model, we can create particular paths (perspectives on perspectives on perspectives) so that certain arrangements (e.g. relations between the three persons, the singular/plural and the subjective/objective) become more salient. For example, we can always think of or talk about certain individuals as being mere parts of a larger group in the objective realm (3$^{rd}$ person impersonal, objective, plural). If we think about, talk about or listen to this combination of perspectives, this path becomes salient in our awareness. This is how we create insiders and outsiders and how we become to view people within our hermeneutic circle as individuals (2$^{nd}$ person interpersonal singular subjective), and people outside of our hermeneutic circle as simply belonging to a group (3$^{rd}$ person impersonal objective plural). Framing is not the enactment of a perspective per se, but the enactment of a set of perspectives; a path; an association. The simplest sentence is already a set of perspectives, which is indicated by the multiple appearances of the "x" in integral math. It is a particular combination of perspectives, an 'association', that indicates framing. And so similarly, 'thinking' -the interior cognitive side of framing- is associative (relational). Although the integral model is always at the back of our mind as a navigation model, selecting a particular set of perspectives makes those pathways ('associations') more salient in our consciousness.

Framing has an exterior dimension manifested through the linguistic expression, but also an interior dimension, which we can define either as the speaker's/writer's interiority as he/she expresses the sentence, or the hearer's/reader's interiority as he/she interprets the sentence. Framing is the process of understanding and representing the world selectively, and thus occurs in both thinking and talking, within and between individuals (we make sense of the world by the use of symbols in interaction and interpretation). Hence, whether I follow your perspectives when I try to understand you as you speak, or whether I think for myself, makes in this case no difference. By listening to you, I simply follow your (derivative) triadic quadratic perspectives.

A linguistic expression, is a set of perspectives, and thus a momentary frame, a swatch of the Kosmos. Perspective-taking happens temporarily in each thought or speech act such as in constructing a sentence (i.e. occasion or 'route'), but can become a structuralized 'schema' (i.e. pattern or 'infrastructure'). The framing-analysis examines the recurrence of perspectives in language, and indicates how these perspectives form structural schemata of interpretation and representation. Note that since frames are perspectives, and since perspectives are trans-metaphysical, frames do not represent interior schema *or* exterior linguistic constructions, but include both.

Now that we have broadened the notion of framing in our own terms, we can look at the implications of the use of particular triadic quadratic perspectives. How does the set of triadic quadratic perspectives relate to framing and the social formation on online creation-evolution discussion groups?

On internet discussion groups, people only come into being as either a first-, second-, or third-person. In addition, these 'persons' come in either the singular or plural form, and are either subject or object. So before anything can be said about anybody, this anybody needs to be specified into somebody. In other words, before people can be labelled, they must be noticed or noted, and whenever anybody is noted it becomes a particular social person through the enacted perspective. Disputants are always identified in a particular way through the triadic quadratics perspective that is enacted and puts the disputants into a particular grammatical person, that inherently relates in a particular way to the other persons, and thus is a social person (a person inherently stands in relation to other persons, indicated the interdependence of personal pronouns in the linguistic structure, e.g. a sentence). Framing is perspective-taking, and since perspectives are by definition relational, perspective-taking signifies social relations. Personal pronouns do not just indicate how disputants call each other, but how disputants relate to each other.

First we focus on the triadic perspectives, second on the singular/plural and subjective/objective forms, and third on triadic quadratic combinations.

The use of a triadic personal pronoun is not an entirely free choice of the first person. Someone is either in front of you (2nd person) or somewhere else (3rd person). If I am in conversation *with* Mike I use the 2nd person 'you' for 'Mike', if I am talking *about* Mike, because he isn't there, I use the 3rd person 'he' for 'Mike'.

The interesting thing of online discussions is that there is no real physical space, but only a virtual space of conversation. This means that it is up to the first person ('the writer') whether to see someone as a 2nd person (interpersonally: I am talking to/with you) or a 3rd person (impersonally: I am talking about him). Online discussions thus provide the opportunity to study triadic perspective taking as a free choice. This is especially relevant for the study of social formation and social identity, and thus for the identity-framing analysis in this study.

To frame the other as either a 2nd or 3rd person conveys profound insinuations. Since an online discussion is always *one conversation* between individuals (*everybody* can read *everything*), one would expect communication to be in the interpersonal mode: I am talking to you, or all of you*.* However, in our preliminary framing-analysis of the online discussion we found that people within the conversation are not always approached as a 2nd person. This is uncommon in normal (non-virtual) conversations. Imagine being in (one) conversation with a group of people and then talking *about* someone sitting next to you. This is generally offensive to the person sitting next to you since he is not acknowledged in his agency. It is as if you are speaking for him. It is an impersonal form of communication. Third persons are represented by 'it' since they are passive/receiving objects. Speaking *about others* within one conversation actually puts them outside of the conversation. Consider the following conversation on the ´Atheism vs Christianity´ Google Groups.

Thea:
If you believe that -- you have your head buried in the sand box. How old did you say you were?
When you see all the ills in the world, it either causes you to dismiss reality, because it causes a Christian to get on their knees…

Ian:
I will be 78 shortly and yes I do do something about it I march and demonstrate and vote for a cleaner planet. Getting on your knees only give you arthritis, Get real Thea

Philosophy:
I think it's a bit late for Thea.
She lives in a world of delusion.
Let her die there. It would be a kindness.

(Atheism vs Christianity, Google Groups)[xix]

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A longer conversation of this thread is used in the identity-framing analysis of chapter 5 to illustrate our complete method to analyse group formation. In this paragraph we just point out the implications of the use of a particular personal pronoun.

'Thea' and 'Ian' refer to each other with the personal pronoun 'you' ($2^{nd}$ person) and thus consider the other as part of the conversation - which is the most common form of communication for a group of disputants in one conversation. The post of 'Philosophy' however, puts 'Thea' outside of the conversation, and into the objective realm, by using the word 'she' and 'her' ($3^{rd}$ person). Reading this post, you get the sense that the speaker ('Philosophy') is conveying the message: 'just leave her'. Remember that every linguistic expression always simultaneously relates to the speaker (sender), the hearer (receiver), and the world so that a *speaker* comes to an understanding with *another person* about *something*. In the second quote the *speaker* tries to come to an understanding with *all the other persons* in the conversation (in this piece of conversation: 'Ian'), *about* 'Thea'. This, in a way 'objectifies', 'impersonalises', or 'dehumanises' Thea. It puts her 'outside'.

The use of a third-person is not always telling for our framing-analysis. For example, the third-person perspective can be used for non-human things, referring to a book, religion, mass media or any other thing. It can also refer to somebody outside of the conversation, such as to an author, a scientist, or any other person. Furthermore, the third-person perspective can be used in a sentence that already has a second-person in it. Such as in "you think he is religious."

Hence, the use of third-person perspectives on online discussions is specifically significant when the following three criteria are met: 1) it refers to a person, 2) the person is part of the conversation, *and* 3) is found in a sentence without the use of a second-person.

Whereas $1^{st}$, $2^{nd}$ and $3^{rd}$ persons determine the phenomenological space (I am $1^{st}$ person for myself, but $2^{nd}$ or $3^{rd}$ person to you, depending on my position) quadratic perspectives tell something about the perspective-dimension of each person. When a person is depicted as a $2^{nd}$ or $3^{rd}$ person, the $1^{st}$ person has a choice to see the other in its singular or plural dimension, as well as in its subjective or objective dimension.

Let us first focus on the singular-plural distinction. Again, this choice is much freer in an online discussion since there is not a spatial environment, but a virtual environment. Whether you are 'with me' is not determined by spatial location, but purely by (my interpretation of) your social position. This leaves more room to actively shape the social formation. I can put you with us if I consider you to correspond with 'my plural me' (us), or with them if I consider you to correspond with 'their plural he' (them).

The use of either singular or plural forms is telling for the prescription of agency. Singular and plural forms indicate what is seen as 'an entity', 'a whole', 'an agent'. An individual can be acknowledged as being a part of an objective group (outsiders), but also as a whole, as an individual agent (subjective individual). Generally, people within the inside-group are acknowledged in their individuality (diversity), while outsiders are generalized into a single whole (one plural). This is illustrated by the out-group homogeneity effect.

Plural forms of pronouns that refer to people within the discussion are rare on online discussions in general. Online discussions are automatically interpersonal (instead of intergroup) because each person sits behind a different computer and individually chooses to partake in the conversation. Because the online conversation is primarily understood as an interpersonal discussion, the $2^{nd}$ person singular "you" is most apparent on online discussions.

However, the online creation-evolution controversy on the CE-Groups does display plural pronouns. We use plural pronouns as keywords for the identity-framing analysis. All personal pronouns are deictic, (words of which the denotational meaning varies), but the meaning of *plural* pronouns refers to 1) a group of disputants in the conversation and/or 2) a social category in which a disputant is put. When plural pronouns are used to refer to a group of disputants this is directly indicative for group formation processes (a relational process). However, plural forms are mostly used to put others into 'social categories' or 'referential categories'. Most group-titles already suggest a division in two distinct groups rather than a discussion on *a topic* ('Atheism vs. Christianity', 'Creation vs. Evolution'). We analyse how plural pronouns are used for referential categories or social categories. Are 'they' religious, Christians, creationists? In this quote it is obvious that "they" are "creationists" (referential category).

We now turn to the subjective-objective distinction. This distinction is often confused with the triadic persons, in which the first person is seen as subjective and the $3^{rd}$ person as objective. In integral mathematics we indeed use the number 1 for both a first person and a subjective perspective/dimension, and the number 3 both for the third person and objective perspective/dimension. However, the three persons (personal pronouns) should be seen separate from the quadratic forms of each of these persons. The first person, which is 'I' in its singular subjective form, has four dimensions. I have an inside and an outside, and I am a whole (individual) as well as part of a larger whole (social 'we'). As we are talking about the subjective-objective distinction, let's focus on the singular forms: 'I' and 'me'. The word 'I' can only be used if the $1^{st}$ person is the subject of a sentence, and the word 'me' can only be used if the $1^{st}$ person is the object of a sentence. For example, "I see him" and "he sees me". In "he sees me", I arise as an object in the subject's phenomenological space, which is his ($3^{rd}$ person) phenomenological space. In "I see him", he arises as an object in the subject's phenomenological, which is mine ($1^{st}$ person) phenomenological space. (In "he sees me", he arises in my phenomenological space as a phenomenological space, but since I can only experience my own experiences this phenomenological space is left out – "the hidden term"). This is how I can become an object in my own assertion, such as in "he sees me". 'I' can do something as a subject, and something can be done to 'me' as an object.

For our framing-analysis there is no direct inference we can derive from the use of either subjective or objective forms of pronouns. Every sentence has both a subject and object, so we do not expect to see one more than the other. However, each personal pronoun is always three-fold: 3 x 2 x 2 (either $1^{st}$, $2^{nd}$ or $3^{rd}$ person, *and* either singular or plural, *and* either subjective or objective), and particular combinations can be indicative for social formation.

Seeing others ($2^{nd}$ or $3^{rd}$ persons) only in their objective dimension hampers mutual understanding. This is elaborated on in 3.1.3 and appendix 3. Although, disputants generally relate to each other interpersonally ($2^{nd}$ person 'you', a bearer of consciousness who is not outside their exterior space but outside in their interior space), in order for disputants to reach mutual understanding they actually have to take the other's perspective. And as pointed out in 3.3.3, mutual understanding requires persons to take up the other's triadic quadratic perspectives. This means seeing the other as a subject.

In the identity-framing analysis we will show more particularly how personal pronouns are used as part of the method.

### *3.4.3 Framing and Metaphysical World-view*

We have now focused on the *personal* pronouns, but as we have seen, these are rudimentary metaphysical perspectives focussing on either subjective or objective dimensions and singular or plural forms. We do not attribute such qualities to persons per se, but can take up such perspectives to any-thing. A *pro*-noun, is a substitute for any noun; for any-thing. The term 'personal pronoun' is in fact misleading because the first-person is an 'intrapersonal pronoun', the second-person an 'interpersonal pronoun' and the third person an 'impersonal pronoun'. Whether intra-, inter-, or im-personal; all nouns have singular and plural forms and can be the subject or object of a sentence.

Although non-human nouns are third-person 'its' (impersonal pronouns), we can make any noun a *subject* or *object*, whether human or non-human. Take the following quote from talk.origins

"…religion does not influence his views on evolution." (talk.origins Google Groups)[xxi]

In this case: "Religion does". Religion is the subject of the sentence and does something to "his views" (objective form of third person, i.e. impersonal). The subject enacts, it does something, and we think of it as having agency. In this way we can, for example, 'blame Religion for influencing him'. Religion is the active agent, and 'he' is just a passive recipient; a 'him'.

First, we should realize that in reality there is no such thing as 'Religion', 'him', or 'his view'. To illustrate this, think of what you are seeing right now. Are you reading letters, words, sentences? A chapter; a thesis maybe? Or are you reading *my* thesis? In fact, all are true. What you decide upon depends on where you want to draw the line. In the same way that we can see either letters or a sentence, so the speaker in our example could possibly have identified not 'his view', but 'him'. This would make: 'Religion does not influence him'. Maybe, the speaker could even have identified a *group* of people, or see the individual as being representative for a group of people, such as in 'Religion does not influence Biologists'. On the other hand (the subject's side of 'Religion), the speaker could have specified 'Religion' into 'Christianity'. In that case, the speaker could also have said: 'Christianity does not influence Biologists', when looking with a different magnitude. Obviously, these sentences are not saying the same thing, but both could be valid in certain situations. The point is that what we call 'a thing' already depends on where we draw the line. Framing is not just the labelling of already present things; it is the very creation of things – it is about demarcating reality. We do not see any-thing from four perspectives because what we see as a thing is already the result of such a perspective. Although we think of framing as choosing particular words over others to emphasize a particular aspect of reality; this 'reality' itself, is already a particular reality unveiled by a particular perspective – perspectives that come forth from the rudimentary singular-plural and subject-object differentiation.

Just as we can identify either a 'he', a 'him', a 'they', or a 'them', so we can demarcate reality into 'things' that are either an object, a subject, a whole, or just a part. Again; reality is composed of holons, and holons have an inside and an outside and are a whole as well as part of a larger whole. To use a noun, is to freeze a holon into 'a whole'; to demarcate 'a thing' in reality. Where do we draw the line between this inside and outside, and thus between what we call a thing and its environment?

And when we have drawn this line, do we say that the environment influences the thing or do we say that the thing influences the environment? Is 'he' influenced by 'them' or are 'they' influenced by 'him'? And in the same way; does religion change humans, or do humans change religion? The above quote says "Religion does not influence his view on evolution", but one could also say "He does not change his view on evolution because his religion". Obviously, all these processes are at work concurrently (the four quadrants coincide) but we cannot comprehend or convey reality *all-in-once.* In our thinking and talking we need to split reality into pieces -we have to draw the line somewhere- and then we have to say how these pieces are related. In other words: we have to make one thing the subject and the other thing the object. Hence, if we want to say anything, we already need a subject and an object; we need an agent and a recipient. The nouns of a sentence indicate what we think of as the main constituents of reality, and the subject-object distinction indicates how we think these constituents are related.

Every sentence thus expresses fundamental metaphysical relations, and so it is through linguistic structures that metaphysical world-views can transpire. A sentence is not just an expression of what the speaker thinks about already solitary things in the world; a speaker cuts reality into pieces (nouns) and then expresses how these pieces are related (object/subject). Hence, whether we are aware of it or not, every linguistic expression tells something about how the speaker views reality metaphysically, that is; the speaker's 'metaphysical world-view'. In every sentence the speaker inherently tells what reality consists off, and how these constituents are related. Framing is not just the attribution of properties, qualities, and states to reality (the adjectives before nouns) but the very creation of things and their causal relations (the demarcation of reality into nouns, and the prescription of agency by defining the sentence's subject).

And so for our framing-analysis we should not just look at what is said about 'him', but to the mere fact that he is acknowledged as a 'him', and we should not just look at what is said about 'Christianity', but that 'Christianity' is acknowledged as an entity in the first place. Not adjectives, but the creation of (pro-) nouns and the prescription of agency (the subject) is of particular interest in the creation-evolution controversy. Nouns are indicative for the demarcation of an undifferentiated world, and these nouns can only be noted as either subject or object, active agents or passive recipients.

## 3.5 Summary and Conclusion

This chapter showed the various ways in which perspectives transpire in language. We used integral theory to reveal how everyday language is a system of perspectives that reflects both group formation ("identities") and metaphysical perceptions ("ideas").

First we used perspectives to make sense of 1st, 2nd and 3rd person, communication and the process of mutual understanding. We found that it is through communication that we create intersubjectivity, a first person plural, or an interior 'we-space'. Theoretically, there can be a lack of mutual understanding because: 1) Disputants do not want to meet (there is no interpersonal dialogue to create an intersubjective space). 2) Disputants cannot understand each other (disputants from different cultural traditions have different semantics), and 3) Disputants have different metaphysical world-views (disputants enact different trans-metaphysical perspectives, and thus do not share the same subjective worldspace). The degree of the first impediment for mutual understanding on CE-Groups will be examined in '5.2 Group Formation'. The third impediment indicates that disputants enact a different world, the second impediment indicates that disputants use different words to describe a similar world. This differentiation is used in the analysis of the ideological categories in 4.2.3.

In '3.2 Integral Mathematics' we explained how the world is built of perspectives and how integral mathematics is the numerical notation system of representing these perspectives. It is the most abstract conceptualization of perspectives and provides an insight into the various ways that perspectives are used in this research. It is particularly useful for distinguishing a phenomenological space, a mode of consciousness or communication, and a dimension. We use this in the issue-framing analysis for distinguishing the topic talked about, or the *dimension* that is enacted (e.g.; interior), the particular *perspective* on the topic (e.g.; subjective), and the particular stance within this enacted world (phenomenological space).

In '3.3 Communication, Language and Perspectives', we related the perspectives of integral mathematics to language, communication and mutual understanding. The integral framework exactly maps the personal pronouns (singular/plural, subjective/objective) and indicates the function of the personal pronouns in language. We then explained perspectives in the wider context of communication and mutual understanding, differentiating: the domain/dimension of concern (interior/exterior), the type of claim being made (prescriptive/descriptive), the type of knowledge employed (acquaintance, descriptive), the mode of consciousness (subjective, intersubjective, objective), the mode of communication (expressive, confirmative, objective) and the validity claim (truthful, right, truth). These perspectives are often aligned in communicative action. This will be used in the framing-analysis for understanding the linguistic expression as a communicative act in the wider context of communication and mutual understanding.

In '3.4 Framing and Integral Theory', we made apparent exactly how a particular linguistic expression is an act of framing. First, we specified the theoretical relation between framing, perspective-taking and integral theory. Framing is the enactment of a set of perspectives; a path; an association. Second, we looked at the implications of the use of particular personal pronouns in the process of group formation. This is of interest for the identity-framing analysis. Third, we showed more elementary how every linguistic expression indicates a (momentary) metaphysical world-view. This is of interest for the issue-framing analysis.

# Part 2: Framing Analysis

*"And here we are, and there they are, still blabbering about a topic they can't even define.*

*That's how stupid creationists are"*

*(Alt.Atheism, Google Groups)[xxii]*

In this second part, we use the Integral Methodological Framework from part 1 for our Framing-Analysis. In figure I and figure II in the research design, we already showed how this framework is used for framing-analysis. A theoretical delineation of part 1 is presented in appendix 4. In summary, The framework demonstrates *possible* perspectives or 'frames' and will be used to recognize the *actual* frames used on internet discussion groups. Since the framework includes all perspectives (the perspective are mutually exclusive and jointly exhaustive), it makes apparent, not only what's inside the frame, but also what's outside the frame. We distinguish perspectives on issues (issue-frames) and perspectives on people (identity-frames) to examine the discussion's ideological and social dimension.

We conduct an issue-framing analysis, and identity-framing analysis and a situational framing analysis, of which the methods and results are presented in chapter 4, 5 and 6 respectively.

In Chapter 4, we first identify the various ways disputants discuss 'what's at issue', resulting in a list of issue-frames. A disputant does not use a single issue-frame but a combination of issue-frames (and within each used issue-frame, supports a particular position). Based on the correlation of issue-frames on CE-Groups we identify ideological-categories: groups of disputants that seem to have a coherence in issue-frames. An ideological-category is a combination of strongly correlated issue-frames and positions that represents a group of disputants with a common ideology. The Integral Methodological Framework is used to analyze how the ideological-categories relate.

Ideological-categories deduced from the issue-framing analysis in chapter 4 do not designate how participants think of identity-groups themselves. In chapter 5 we conduct an identity-framing analysis. In 5.2, the group formation process is analysed to see how disputants identify or relate to one another. In 5.3, we detect the referent-frames (social categories, stereotypes and personal traits) that disputants use to signify identity. In 5.4, this is analysed to deduce identity-frames which represent basic principles or windows that disputants use to make sense of identity.

To further understand the role of identity, we investigate what frames productive authors from the identity-groups use in an intra-group discussion and an inter-group discussion. This logic is based on the assumption that a change of social context stands for a change in social identity. We hold that an identity-conflict, is a conflict in which framing is determined by identity. This means that *if* the use of issue-frames and identity-frames *corresponds* to two conflicting social-groups and is *dependent* on in-group and out-group discussions of these groups, *than* the conflict is identity-based.

# *4. Issue-Frames and Ideological-Categories*

*"But creationism is not science.*

*If creationists would understand what science is,*

*then they would not bother to try and present the issue as though it is a matter of popular opinion*

*(talk.origins, Google Groups)[xxiii]*

This chapter presents the methods and results of our issue-framing analysis, focusing on the ideological dimension of the discussion. It consists of two  parts: 1) identification and analysis of issue-frames, 2) identification and analysis of ideological-categories based on a coherence of issue-frames.

In 4.1 we will look at how the discussion is framed, resulting in several issue-frames. First, we will analyze the relations between and within the issue-frames, to see how the online creation-evolution discussion is generally framed or 'structured'. Conflicts *within* issue frames are generally *explicit,* and differences *between* issue-frames are generally *implicit.* Second, we will do a content-analysis of issue-frames from our integral framework to see what is generally included to – and excluded from - the picture as a whole (i.e. overall discussion). We will thus distinguish what is inside and outside the discussion, and what is explicit and implicit. This part thus tells something about how the discussion is generally framed, regardless of *who* says what.

In 4.2 we will look at the actual correlation of issue-frames on internet discussion groups, resulting in ideological-categories. A disputant does not use a single issue-frame but a combination of issue-frames (and within each used issue-frame, supports a particular position). So instead of simply prescribing a group of disputants to a particular position within an issue-frame, we will look at co-variation between issue-frames (what issue-frames do disputants use in combination) and within issue-frames (what positions do disputants support in combination) to infer ideological categories. An ideological-category is a combination of strongly correlated issue-frames and positions. Not every disputant necessarily fits into an ideological-category, but the ideological-categories stem from the actual co-variation between and within issue-frames apparent on Google Discussion Groups, and thereby signify the dispersion of disputant's ideologies.

How the discussion is generally framed (results of 4.1) and the actual positions of disputants or 'ideological-categories' (results of 4.2) do not necessarily correspond. Although the discussion might be framed as a two-sided conflict over one truth, there might be diverse ideological-categories.

## 4.1 Issue-Frames

### 4.1.1 Introduction and Method

For our issue-framing analysis, we first looked at the general topics talked about on the CE-Groups. As anticipated by our preliminary analysis, the discussion is not just about how the universe started, but includes topics such as 'education', 'astronomy', 'biological history', 'the bible', 'the scientific method', etc. By looking at the dissimilarities, correlations, and overlap of these topics we ultimately grouped them into four main themes: the origin, science, religion, and politics. This gives a first indication of the scope of the discussion and the main differentiations.

However, these categories are inadequate to identify issue-frames because most discussions or threads are not solely concerned with either one of these themes. Moreover, an issue-frame does not indicate 'the issue talked about', but the main concern of a topic; it indicates 'what's at issue'. For example, if religion is a theme that is discussed from a scientific point of view ('objectively'), than 'religion' as such is not a significant issue-frame: it does not signify the disputant's perspective. Issue-frames do not just indicate the topic talked about, but includes the disputant's particular perspective on the topic. And so an issue-frame is not 'religion' as such, but includes the frame through which religion is understood, e.g. as a particular domain, practice or level.

The Integral Methodological Framework proved to be useful for distinguishing the *topic* talked about (e.g.; religion), the particular *perspective* on the topic (e.g.; stage), and the particular *stance* (e.g; pre-rational). Within an issue-frame or 'from a particular perspective', a particular reality is enacted, in which various stances can be held. And so it is generally within issue-frames that disputants meet each other (they have a similar perspective) and then disagree within this reality (worldspace). For example, 'the origin' (topic) is discussed from an objective viewpoint -focussing on evidence and facts about the empirical reality of the origin (perspective)-, in which disputants support either evolutionism or creationism (stance). Hence, within the 'fact-frame' creationists and evolutionist meet to discuss the origin.

This 'fact-frame' stands for a perspective, and this perspective indicates: a mode of communication (objective observer), a mode of consciousness (objective), a dimension that is enacted (exterior), the dominant validity claim (truth), the type of claim being made (descriptive), type of knowledge being used (descriptive), and the topic talked about (the origin). Hence, this frame or 'perspective' does not indicate the view on an already present independent topic, object or reality, but indicates the set of perspectives that enacts a particular reality. An 'issue-frame' is not a topic, nor the perspective on a topic, because the subject, perspective and object exist always already as a perspectival relation (there is not an already present object independent from the subject's perspective; there is not an already present independent topic, on which a disputant projects a perspective). Just as we create subjects, objects and relations in the sentence, so do we disclose realities by the enactment of perspectives. Hence, the 'perspective' which indicates the issue-frame, is a set of perspectives that enacts a particular reality.

Each issue-frame is thus defined in terms of the perspectives of the Integral Methodological Framework. Chapter 3 was mainly used for the reading of the CE-Groups (a methodological framework) translating language into perspectives through a syntactic-analysis (meaning of structure). Chapter 2 was mainly used for the interpretation of these perspectives in order to understand the speaker's perspective and to infer or 'conceptualize' an issue-frame (a theoretical framework). However, the theory and methodology are neatly intertwined and together make up the Integral Methodological Framework that was used for the framing-analysis as a whole. This framing-analysis combines search methods and text-analysis. It was a continuous cycle of induction and deduction, generating conceptualizations (hypothetical frames) from observation and then using these conceptualizations, such as keywords that represent a frame, to guide which observations to make (elaborated in Method). This resulted in the following issue-frames, which are listed in order of salience.

Factual-Frame

*"There is a body of indisputable facts which make Big Bang explanations a physical impossibility"* (talk.origins, Google Groups)[xxiv]

*..the tone that many of your posts shared was that there is no evidence for god but, there is in fact evidence for evolution using science* (talk.origins, Google Groups)[xxv]

Within this frame, the focus is on evidence and empirical reality. The discussion topic is often stated to be the 'the origin', but it is actually about everything that happened way after the origin. The origin is not seen as a philosophical dilemma about an unknown beginning, but it is seen as an actual first occurrence in time and space that was either a natural Big Bang or a supernatural creation of the Abrahamic God. It is discussed in terms of biological, geological, cosmological and human history and focuses on findings, facts and dates. Instead of a creationism-evolutionism conflict, there is a conflict over the empirical truth of 'evolution' and 'the bible'. The discussion focusses on 'facts' that prove or disprove 'The Origin of Species' and 'The Bible'. Evolution theory is not argued about as a theory (variation, selection, heredity), but more in terms of its material findings (fossils) and the facts/flaws it produces. For example, the creationist-side argues that evolution theory cannot explain the evolution of the eye, or the evolution of wings, and supports this with particular archaeological findings. In the same way, the truth of the bible is refuted by historical findings. The issue is approached 'scientifically/empirically' and religion itself seems to be of no interest in this discussion. Religious disputants defend 'creationism' (mostly 'the bible') without referring to their religious conviction. Within this frame, only one can be right and empirical findings are true or false. Facts for the evolution and facts against the evolution are more apparent than facts for creationism and facts against creationism.

Main topics: 1) Evolution, 2) Bible
Kind of relation: Conflict-thesis

Philosophical-Frame

*Compare the notion of "First Cause" with that of "constant becoming." It is worth looking at the nature of existence in two ways: namely that that is forever without cause, and that which appears to be in a state of constant becoming* (alt.atheism, Google Groups)[xxvi]

Within this frame, 'the origin' is of central concern. The traditional arguments for and against the existence of God (outlined in appendix 3) basically make up the 'philosophical frame'. Although the online arguments are formulated in informal terms, the argumentation is very similar to the formal arguments from literature. Most discussions revolve around the cosmological argument (the universe has a first cause) and the teleological argument (the universe has a purpose). The cosmological argument for creationism is most widely debated because it seems a 'rational' or 'scientific' argument for creationism: It is mainly based on 'the argument from causation', and causality is the basic assumption of science (methodological naturalism or 'the scientific method'). The teleological argument presents a similar paradox. In explaining reality, science searches for regularities, patterns, generalizations, etc., but this 'order' is then used by creationists to argue that there is design, purpose or a directive principle in the works and processes of nature. This argument is particularly at issue in discussions about Intelligent Design. Although there is indeed a pattern in evolution, and even a direction (increasing complexity and consciousness), this does not support, nor abolishes the teleological argument: we cannot say whether this direction or order has a purpose. To say that the universe does or does not have a purpose is an ideological attribution and cannot be proven.
As described in 1.3, this philosophical discussion is incommensurable: where and when it begins is much more a conceptual issue than an empirical issue. Still, the discussion is mainly framed as a philosophical battle that will ultimately be won by one side. The arguments are not presented as various views on the origin, but as true or false statements about an empirical reality. Although the focus is on reasoning rather

than facts, the outcome is still seen as defining an empirical reality, rather than an ideological reality. Within this frame, the conflict-thesis is most apparent, followed by the independence-thesis and the dialogue-thesis subsequently. Whereas the fact frame discusses the facts and findings of 'evolution theory', within this frame, the *theory* itself is discussed. Is it just a hypothesis, or an established scientific theory ('fact')?

Sub-categories: 1) Cosmological/Teleological, 2) Empirical/Conceptual
Main topic: The Origin (evolution *theory*)
Kind of relation: Conflict-thesis

<u>Personal-Frame</u>

*"There are only two kinds of people in this world....1) One who has brains and believes in logic and proof. This is also the one who give all the credits and discredits to themselves. 2) The other are those that have a deeply buried inferiority complex who would love to believe that Santa Clause is real. They don't need proof, but faith to believe what is not there."* (Creation vs Evolution, Google Group)[xxvii]

*"It's entirely predictable that you're too stupid to define evolution"* (alt.talk.creationism, Google Groups)[xxviii]

*"Have you seen a picture of Darwin? 1500cc brain, protruding sub orbital ridges, hell, the man was a walking neander"* (alt.talk.creationism Google Group)[xxix]

The issue is also framed as an argument between *individuals.* There are various ways in which the differences in the debate are interpreted 'personally'. The integral framework proved to be very useful for distinguishing these interpretations:

1) disputants *are at* different *levels* of personal development,
2) disputants *are* different personality *types*,
3) disputants *can* take up different *attitudes*/perspectives,
4) disputants have multiple *developmental lines within*.

The most common way to talk about personal differences, is the 'superiority-frame' in which differences are understood hierarchically (as *levels* of personal development). The 'superiority-frame' portrays any issue (religion-science, creationism-evolutionism, faith-rationality) as a hierarchy, and transmits any issue to the personal domain. Because differences are understood both as *hierarchical and personal*, many posts implicitly carry the message 'I am better than you', creating a social conflict. A hierarchy can be understood vertically (one dimension), but mostly includes the idea of a horizontal dimension (timeline), which goes with the progress-thesis (latter, is more advanced, is better). On online discussions, the two-dimension interpretation is most common, but particularly evolutionists are much more explicit about the progress-thesis. Within the 'superiority frame', faith is most heavily discussed and labelled as either a pre-rational or post-rational stage of individual development. Science is often portrayed as a post-religious stage of (cultural) development. Likewise, evolution theory is seen as superior because it came after the creation theory.

If the discussion is defined in terms of different personality *types* - people are different, think different and nothing can change that -, there is no further interpretation and all people are equal. It is based on the egalitarian principle and enacts the independence-thesis. The whole discussion is brought down to personal differences which are fixed (because of two different personality types, there is science and religion, evolutionism and creationism, reason and faith, etc.).
The third interpretation of *personal attitudes* was rare because when the issue is seen in terms of possible approaches/perspectives available to *each person*, it is often interpreted *non-personally*; and discussed as various 'practices' (see 'Practice-Frame'). The fourth interpretation as *lines of personal development* was found in just a few instances.

The first interpretation (*levels*) focusses on *external* personal differences and resembles the conflict thesis, the second interpretation (*types*) resembles the independence thesis, and the last two (*attitude* and *line*), which focus on people's *interiority*, resemble the dialogue-thesis. On internet discussion groups there is thus attention for external personal differences, rather than for internal personal commonalities. For example, within the personal-frame people are a spiritual type or at a spiritual level, but 'spirituality' is not an aspect of all people or an approach/attitude that all people can adopt.

Sub-categories: 1) Superiority-Frame, 2) Personality-Types
Main topics: 1) faith vs. rationality
Kind of relation: 1) Conflict (Hierarchical) 2) Independence

Practice-Frame

*"I believe that faith in the saving effect of Jesus' death and resurrection bring this to those who exercise it. That faith is based on a measure of facts and reason, which themselves are insufficient or incomplete."* (alt.religion.christian, Google Groups)[xxx]

*"No, what it would be evidence of is that your engineering was faulty, and possibly that you have the WRONG METHODOLOGY inside rationalism and/or empiricism, not that one or both of them was not true or correct."* (Atheism vs Christianity)[xxxi]

Within this frame, it is discussed how human beings, in general, can come to true knowledge. This frame is mostly used to discuss the scientific method in terms of empiricism/rationalism (the role of 'seeing' and 'thinking'). The practice of religion was discussed in terms of faith and reason. Both discussions resembled the dialogue thesis. There was also a conflict between rationalism vs. fideism which seemed more of a paradigmatic 'science vs. religion' conflict. The first two are truly practical or pragmatic, while the latter is actually paradigmatic. Remarkably, rationalism or 'thinking' is considered to be scientific in the discussion on rationalism vs. fideism, and non-scientific in the discussion on the scientific method. Although some disputants bring forth an integral/pragmatic perspective on 'seeing' (objective observation), 'thinking' (objective thinking) and 'subjective feeling' ('innatism', 'intuition', 'revelation', 'meditation', and 'contemplation'), this does not turn into a dialogue between disputants.

Sub-categories: 1) Empiricism/Rationalism 2) Rationalism vs. Fideism, 3) Reason and Faith
Main topics: 1) The Scientific Method, 2) Science vs. Religion, 3) Religion
Kind of relation: 1) Dialogue-thesis 2) Conflict-thesis, 3) Dialogue-thesis

Really-Real Frame

*"All evidence is subjective"* (talk.origins Google Groups)[xxxii]

*"They are real for us, but do they exist outside our mind? Are our minds real?"* (Atheism vs Christianity, Google Groups)[xxxiii]

The 'really-real frame' is concerned about what 'reality' is. It is strongly connected to the 'practice frame' but whereas the 'practice frame' is epistemological, the 'really real frame' is ontological. In many discussions on the origin, science or religion, the issue at stake is defined in terms of what is real and unreal. Although the discussion was concerned with consciousness, mystical experiences, matter, nature, supernatural, God, etc., we could clearly observe a continuum from materialism to idealism. Idealists hold that the only thing we can perceive or know is our own perception or knowledge; our mind. Reality is thus internal to the human being (subjective) and we cannot know for sure what is outside us. Materialists, on the other hand, hold that only matter is real, because it is the only thing we can measure and know 'objectively'. Most idealists and materialists do acknowledge the presence of the other half, but frame it as unreal, less real or insignificant. On the online discussion groups, idealists differ in how they frame the interior side of life, ranging from ontological naturalism (metaphysical naturalism) to 'supernaturalism'. Religious disputants tend to define matter as a pale reflection of the real spiritual world. They equate mind or immaterial with spiritual and attribute supernatural qualities to this domain. In this discussion,

materialists are inherently naturalists, but idealists can define the immaterial as either natural or supernatural.

Even though most disputants acknowledge the presence of both domains (mind and matter), the discussion is framed in terms of what side is ´really real´, rather than in terms of what mind and matter mean. So although most disputants are dualists (both sides are part of reality), the discussion is mostly monistic (one side is real), and rarely pluralistic (multiple views give multiple perceptions). This means that the argument is about what's really real and not about how we should interpret reality domains. We have distinguished three categories: monism (acknowledge one side), dualism (acknowledge both sides), and pluralism (interpret both sides).

Remarkably, the link between the 'really-real frame' and the 'practice-frame' was not very clear in online discussions, which led to this separation of ontological and epistemological frames.

Sub-categories: 1) Monism, 2) Dualism, 3) Pluralism
Main topics: Mind/Matter, Natural/Supernatural (Science, Religion, The Origin)
Kind of relation: 1) Conflict-thesis, 2) Independence-thesis, 3) Dialogue-thesis

Interpretive Frame

*"NO believing in religion means that you realize that YOU are NOT GOD, YOU didn't create anything, and you have NO power over your life and death"* (Atheism vs. Christianity, Google Groups)[xxxiv]

*"The very nature of the scientific method means we will always be developing new ideas, many of which will be discarded and improved upon"* (Atheism vs. Christianity, Google Groups)[xxxv]

The 'interpretive-frame' describes the issue in terms of 'what it means'. We can distinguish the interpretation of science and the interpretation of religion, of which the latter is more apparent. Religion is particularly interpreted by its texts (biblical hermeneutic) and is generally held to comprise different ways to different truths. Science too, is understood to include different practices that lead to different conclusions. Even though religion is mostly discussed among theists, and science is mostly discussed among atheists, the dialogues show similar ways of reasoning. Despite the allowance of the ambiguity and the recognition of plurality in the interpretation of both science and religion, there is little integration. It seems the science religion distinction is made prior to any other type of differentiation (interpretation). So even though both religion and science are each discussed integrally (different practices and realities are considered) there is no unified dialogue in which both religion and science are integrated.
This illustrates how the discussion is thought of a dichotomy.

Topics: 1) Religion, 2) Science
Kind of relation: Dialogue-thesis

Societal-frame

*"A similar system exists in other educational set-ups, its quite permissable to have religious/moral education, provided that it is presented in an even way"* (Atheism vs Christianity, Google Groups)[xxxvi]

Within this frame, society is at issue. Science and religion are discussed politically and education is of particular interest. On the surface, there is simply a conflict between 'creationists' and 'evolutionists' or 'religion' (freedom for religion) and 'science' (freedom from religion). The first argues for value-based education  and for the allowance of teaching the bible or creationist theories at school. The second argues for fact-based education, for a ban of any creationist theory in education, and for a restriction of the special treatment of religious people in general. Remarkably, the first argue that Christians are equal to non-Christians, and therefore Christians should be free to practice their religion in all ways, the second argue that Christians are equal to non-Christians, and therefore Christians have no special right to have any advantage based on 'freedom of religion'. 'Freedom of religion' is often used as either the 'freedom *for* religion', or the 'freedom *from* religion'.

The most vivid distinction underneath however, is between fact-based and value-based argumentation. The fact-based argumentation holds that society/politics/education should operate on the basis of facts.

Education is seen as a system that teaches the truth. Only evolution theory should be taught as an explanation for the universe because it is true, and genesis 1:1 is false. Science is important for society because it discovers the truth. 'Truth' is principally 'good'. The value-based argumentation holds that society/politics/education should operate on the basis of values. The most apparent value on online discussions was that of equality, embodied by 'egalitarianism' in political thought. Evolution theory and Genesis 1:1 should both be taught based on the principle of egalitarianism. This generally results in *relativistic*, rather than *pluralistic* stances. Whereas pluralism holds that particular perspectives amount to particular perceptions, relativism equates all perspectives without interpretation. Within this frame religion and science are hold to be equally valid. Science is often explained in terms of paradigms, rituals and dogma ('scientism') to equate it with religion. And so value-based argumentation often supports 'egalitarianism' or 'relativism' and is mostly used by creationists.

Another apparent frame, different from the fact-value distinction, was that of 'power'. Politics is seen as a battle of two social groups: republicans-democrats, religious-scientists, evolutionists-creationists.

Sub-categories: 1) Fact/Value, 2) Power
Topics: Politics, Education
Kind of relation: Conflict

### 4.1.3 Analysis

In summary, we have identified the following issue-frames:

| Issue-frame | Subcategories | Kind of relation | Main Topics |
|---|---|---|---|
| **1. Fact-frame** | | Conflict | Evolution, Bible |
| **2. Philosophy-frame** | Cosmological, Teleological | Conflict | The Origin |
| | Empirical/Conceptual | Conflict/Independence | |
| **3. Personal-frame** | Superiority | Conflict | Faith vs. Rationality |
| | Personality Type | Independence | |
| **4. Practice-frame** | Empiricism/Rationalism | Dialogue | The Scientific Method |
| | Rationalism vs. Fideism | Conflict | Religion vs. Science |
| | Reason and Faith | Dialogue | Religion |
| **5. Really-real frame** | Monism | Conflict | Mind/Matter Supernatural/Natural (Science, Religion, Origin) |
| | Dualism | Independence | |
| | Pluralism | Dialogue | |
| **6. Interpretive-frame** | | Dialogue | Science |
| | | Dialogue | Religion |
| **7. Societal-frame** | Fact vs. Value | Conflict | Politics; Education, 'Science-Religion' |
| | Power | Conflict | |

4.1.3a Overview of issue-frames ('Dialogue' refers to the 'dialogue thesis' not to a communication mode) (Tim Stevens, 2012)

These issue-frames indicate what disputants consider to be at issue, and disputants with similar concerns generally find each other on discussion groups/threats *within* a particular issue-frame. It is thus within a particular issue-frame that conflicts become apparent. For example, if disputants see the creation-evolution controversy primarily in terms of an empirical reality that can be proved or disproved by evidence ('facts'), then it is within this fact-frame that a conflict emerges between creationists and evolutionists. If, on the other hand, disputants approach the creation-evolution controversy primarily philosophically, then it is within this philosophy-frame that a conflict emerges between creationists and evolutionists. The discussion about whether the creation-evolution controversy is about facts (issue-frame 1) *or* philosophies (issue-frame 2) is less apparent, but not absent. The issue-frames indicate how the discussion is predominantly 'framed' - how the creation-evolution discussion gets structured into sub-discussions as a result of what disputants consider to be at issue. Although disputant's perspectives differ in multiple ways, some differences become apparent (differences within issue-frames), while others remain obscure (differences between issue-frames). Since the seven issue-frames are directly derived from internet discussion groups, the differences *within* issue frames are generally *explicit,* and the differences *between* issue-frames are generally *implicit.* In addition, some 'issues' or perspectives might be left out altogether (not within, nor between issue-frames). This can be discovered by a content-analysis of issue-frames from the Integral Methodological Framework (what is generally included to, and excluded from, the overall discussion?).

First, we look at the relations between and within the seven issue-frames, to see how the online creation-evolution discussion is generally framed or 'structured'. Second, we do a content-analysis of issue-frames from our integral framework to see what is generally included to – and excluded from - the picture as a whole (i.e. overall discussion). Structure and content (similar to 'form' and 'matter'), give two perspectives on the same discussion, and thus have parallel results that are combined to draw a comprehensive conclusion in 4.1.4.

*Structure*
The seven issue-frames show that 1) the discussion is *one-dimensional* since issues are discussed independently or simplistically (e.g. the 'practice-frame' on epistemology and the 'really-real frame' on ontology are not linked), and 2) that each issue-frame comprises a two-sided conflict (e.g. mind vs. matter). The discussion is thus predominantly seen as a dichotomy, in which disputants then disagree on a variety of issues. Instead of including multiple perspectives on multiple issues, which would engender multiple multi-dimensional positions by cross-correlation, the discussion is first and foremost seen as a dichotomy, which then comprises various issues (and thus 'conflicts'). Figure 4.1.3b shows how three bilateral issue-frames can lead to three independent dichotomized one-dimensional discussions (left), or to one three-dimensional discussion which allows for eight positions (right). So even if issue-frames comprise only two sides, cross-correlation potentially produces multiple positions (three dichotomies can produce eight positions).
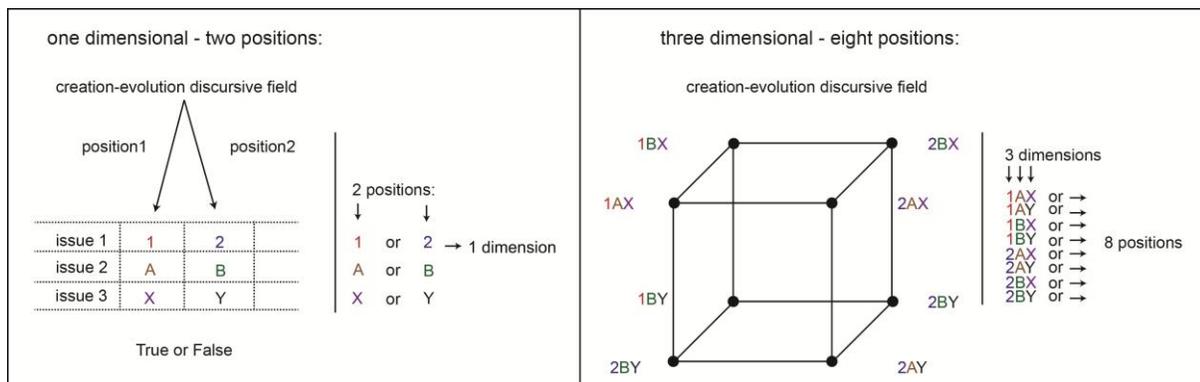


Figure 4.1.3b (left) one-dimensional, (right) three-dimensional, such as Matter/Mind, Naturalism/Supernaturalism, Seeing/Thinking (Tim Stevens, 2012)

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The online creation-evolution discussion is resembled by the left situation in figure 4.1.3b. There is always a two-sided conflict, which is simply phrased as 'creationism vs. evolutionism' or 'religion vs. science'. These 'determinants' make up the primary dichotomy under which various issues are placed. However, the interpretation of this dichotomy varies (e.g.; empirical, philosophical, personal, practical, ontological, societal), resembled by the various issue-frames.

There is thus not just a conflict between 'creationism' and 'evolutionism', but conflicts between the big bang and genesis, mind and matter, natural and supernatural, reason and faith, empiricism and rationalism, fact and value, etc. These are the secondary conflicts or 'features' of the discussion, of which the most significant are listed in the second row of figure 4.1.3c on the next page. These issues are openly and separately discussed. It is unlikely that all issue-frames neatly fit into a single dichotomy because each issue-frame is of a different nature. For example, there is a conflict over what's really real (mind or matter) and whether one focuses on facts or values, which theoretically produce four possible stances (mind-fact, mind-value, matter-fact, matter-value) rather than a single dichotomy. Although the discussion is generally framed as a two-sided conflict, there are multiple 'two-sided conflicts' that could amount in multiple multidimensional positions (as illustrated in 4.1.3b, right).

Third, after the primary dichotomy and the secondary conflicts, there are the 'hidden differences' that are found as a result of interpreting differences *within* issue-frames, such as monism vs. pluralism (within frame 5) and practice vs. paradigm (within frame 7). These stances *actually converge* on Google Discussion Groups (because they derive directly from *within* a single issue-frame), but are not considered at conflict (because they are not explicitly opposed to each other).

Fourth, there are the 'inferred differences' that are found as a result of inferring differences *between* issue-frames, such as the factual/empirical vs. conceptual/philosophical approach (between frame 1 and frame 2). These do *not actually converge* on the CE-Groups (and thus cannot be called a 'conflict') but derive from a conceptual convergence of issue-frames. Creationism and evolutionism are empirically approached (within issue-frame 1) and philosophically approached (within issue-frame 2), which together potentially produce four positions by cross-correlation (empirical-creationism, empirical-evolutionism, philosophical-creationism, philosophical-evolutionism). There is an explicit conflict between 'evolutionists' and 'creationists', but also an implicit difference between 'empiricists' and 'philosophers'. We can even say that disputants who have a conflict on a certain issue have something in common: They have the same perspective about 'what's at issue' - they meet each other within the same issue-frame. An 'evolutionist' and 'creationist' can both approach the origin philosophically (within frame 2) and - *because* and *despite* of that - have an *explicit conflict*.

| | | |
|---|---|---|
| *Explicit* | *1. Primary dichotomy ('determinants'):*<br>Creationism vs. Evolutionism (mainly within frame 1 and 2)<br>Religion vs. Science (mainly within frame 1, 4 and 7) | Dominant Differentials |
| | *2. Secondary conflicts ('features'):*<br>Matter vs. Mind (within frame 5)<br>Naturalism vs. Supernaturalism (within frame 5)<br>Empiricism vs. Rationalism - Seeing vs. Thinking (within frame 4)<br>Rationalism vs. Fideism - Thinking vs. Feeling (within frame 4)<br>Fact vs. Value (within frame 7) | Outspoken Conflicts<br>Within Issue-Frames |
| *Implicit* | *3. Hidden differences*<br>Monism vs. Pluralism (within frame 5)<br>Practice vs. Paradigm (within frame 4) | Unexpressed Differences<br>Within Issue-Frames<br>(actual convergence) |
| | *4. Inferred differences:*<br>Factual vs. Conceptual (between frame 1 and frame 2)<br>Positivism vs. Interpretivism (between frame 1 and frame 6)<br>Personal vs. Social (between frame 3 and frame 7)<br>Human vs. Non-human (between frame 3 plus 7 and frame 1 plus 2)<br>Epistemological vs. Ontological (between frame 4 and 5) | Differences<br>Between Issue-Frames<br>(conceptual convergence) |

Figure 4.1.3c Structure of the Discussion

Recapped, the 'secondary conflicts' are *actual and outspoken conflicts* on Google Discussion Groups, but there is no cross-correlation *between* these secondary conflicts so that the overall discussion falls apart in just two main positions. Although cross-correlation of secondary conflicts could produce multiple multidimensional positions, they are each placed under the primary dichotomy.

The 'hidden differences' are *actual but unexpressed* conflicts on internet discussion groups. There is no explicit conflict over these differences, but the stances do converge on Google Discussion Groups (derive directly from *within* a single issue-frame). Disputants consider these differences as irrelevant because the discussion is framed in terms of other conflicts.

The 'inferred differences' are *not actual conflicts* because they are the result of a conceptual convergence of issue-frames (indicating the differences *between* issue-frames). The correlation is hypothetical, but the categories derive from actual issue-frames. These differences do not become apparent in the discussion because they literally fall in-between issue-frames.

By distinguishing the primary dichotomy, secondary conflicts, hidden differences and inferred differences, we can clearly see how the discussion is generally structured or 'framed'. We can conclude that each issue is interpreted separately, and structured as a dichotomy (figure 4.1.3b left), rather than allowing multiple perspectives on multiple issues (4.1.3b right). It seems the discursive field gets structured into a single dichotomy by the presumption that the discussion is always (i.e. whatever is at issue) about 'One Objective Truth'. For example, within the really-real frame the discussion is about whether mind or matter is really real. Even though our analysis points out that most disputants in fact acknowledge the presence of both domains (mind and matter), the discussion is still framed in terms of what side is ´really real´, rather than in terms of what mind and matter mean. There is thus an explicit conflict between materialist versus idealists, and the implicit difference (monism/pluralism) remains unexpressed and unexplored. Moreover, the link between the 'really-real frame' and the 'practice-frame' was not very clear on online discussions, which led to this separation of ontology and epistemology. So the various issues are not connected and each issue comprises a simple dichotomy.

*Content*
An analysis from our integral framework on the content of issue-frames helps us further to explain this structure. It is not just within the really-real frame that the discussion is considered to be about 'One Objective Truth'. In fact, the whole discussion - whether framed as an empirical, conceptual, personal, social, epistemological, or ontological issue - falls apart in two sides, fighting over a single truth. If we study the content of all issue-frames from an integral perspective it becomes clear that the discussion is a two-sided conflict because most issues are over 'One Objective Truth' (Right-Half). This allows only for 'true' or 'false' positions on various issues, rather than allowing multiple multidimensional positions. This supports the finding that issue-frames 1) contain a simple dichotomy and 2) are not cross-correlated. Disputants generally focus on the truth of the exterior domain, take the communication mode of an objective observer, and employ knowledge by description. As a result, there are only true or false statements, instead of various personal opinions and/or cultural values. This becomes apparent in several ways, of which the following are most significant:

- The fact-frame, which focusses on evidence and empirical reality (Right-Hand 'Truth'), is the most dominant way of framing.
- Within the philosophy-frame arguments are not presented as various views on the origin, but as true or false statements about an empirical reality. Although the focus is on reasoning rather than facts, the outcome is still seen as defining an empirical reality, rather than an ideological reality.
- Within the personal frame, differences are defined not within personalities but between personalities (people are different, rather than; a person has differences within) – hence, a focus on exterior (as opposed to interior). The two interpretations that include the subjective and allow multiple positions (personal *approaches* and personal *lines* of development) are virtually absent.
- Within the really-real frame the argument is about whether mind or matter is really real. Even though most disputants acknowledge the presence of both domains (mind and matter), the argument is mostly monistic. Reality cannot be both matter and mind; one side is 'really real'. Moreover, the natural/supernatural was discussed separately, and so combinations (metaphysical naturalism) or 'interpretations' were not discussed.

- Although there is a 'personal-frame' and 'social-frame', these are objectively approached; there is 'One Objective Truth' about people and society. Although the discussion is driven by personal and cultural differences, subjective experiences and values are not explicitly shared or disguised as facts.

Disputants consider the discussion to be about an external singular reality (whether this reality is 'spiritual', 'mental' or 'material') independent of their personal perspective or cultural context. Even idealists, who consider mind to be the ultimate reality, talk about reality in terms of a single external reality independent of *their mind*. Hence, whether materialist or idealist, most disputants seem to support realism/positivism as opposed to interpretivism.

Only the practice-frame and interpretive-frame seem to resemble a dialogue[12], comprising more pragmatic and pluralistic approaches. However, these 'dialogues' take shape in either the 'religious' or 'scientific' paradigm, before allowing multiple multidimensional positions. Within the practice-frame there is not a single discussion on how to gain knowledge, but a focus on either the practice of science (empiricism vs. rationalism) or of religion (fideism vs. rationalism). When there is an overall discussion, it results in a science vs. religion conflict. Likewise, within the interpretive frame there is a distinction between science and religion, before there is interpretation. So even these discussions are predominantly shaped by thinking dualistically about the topic.

### 4.1.4 Conclusion

The online creation-evolution discussion is framed as a two-sided conflict over 'One Objective Truth' which comprises various topics. These topics are usually framed in terms of 'religion vs. science' and 'evolutionism vs. creationism', even though there are multiple perspectives on multiple issues.

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[12] Dialogue refers to the 'dialogue-thesis' (the disputant's perspective on the issue and not to a communication-mode)

## 4.2 Ideological-Categories

### 4.2.1 Introduction and Method

Issue-frames are helpful for understanding the differentiation of the discussion as a whole, but do not directly indicate the differentiation of disputants. The previous paragraph exposed the structure of the discussion, not the dispersion of disputants. A disputant does not use a single issue-frame but a combination of issue-frames (and within each used issue-frame, supports a particular position). So instead of simply prescribing a group of disputants to a particular position within an issue-frame, we will look at correlation between issue-frames (what issue-frames do disputants use in combination) and within issue-frames (what positions do disputants support in combination) to infer ideological-categories. We use 'category', because 'a group' would indicate a relational ('interpersonal') group of disputants within the conversation. An ideological-category is a combination of strongly correlated issue-frames and positions. These positions represent 'ideas' and together make up an 'ideology'. Not every disputant necessarily fits into an ideological-category, but the ideological categories stem from the actual correlation between and within issue-frames apparent on the CE-Groups, and thereby signify the dispersion of disputant's ideologies.

In the previous paragraph, we have exposed actual issue-frames or 'explicit conflicts', and inferred 'implicit differences' by conceptually converging issue-frames. This made clear what is generally inside the frame (explicit), and what is outside the frame (implicit) and helped in analyzing the discussion as a whole.
In this paragraph, we look at the *actual correlation* between and within issue-frames on Google Discussion Groups. This tells something about ideological-categories: categories of disputants with similar issue-frames.
The difference between *conceptual correlation* and *actual correlation* is that the first shows the *possible positions on the issue*, while the second shows the *actual positions of disputants*. In the previous paragraph we correlated actual and possible positions on the issue, to see what is generally outspoken and unspoken. In this paragraph we correlate actual positions of disputants, to find a pattern (correlaiton) in the use of issue-frames that differentiates groups of disputants with similar world-views.

The 'ideology' of a disputant is known through 1) the issue-frames he/she uses, and the issue-frames he/she does not use (both are telling), and 2) the explicit and implicit positions within the used issue-frames. This means that we look at the correlation of 'secondary conflicts', 'hidden differences' and 'inferred differences'. The 'inferred differences' tell something about the selection of particular issue-frames (the correlation of issue-frames). The 'secondary conflicts' and 'hidden differences' tell something about the correlation of positions within the used issue-frames (the first indicates explicit positions, the second indicates hidden positions).

A simple example is here presented to clarify this method: Consider a disputant who 1) uses the fact-frame in support of 'Creationism', 2) does not use the philosophical frame, 3) uses the practice-frame to explicitly support 'Faith', but 4) implicitly also has a 'paradigmatic' approach as opposed to a 'practical' approach within this issue-frame (as shown in figure 4.2.1a).

| 1. fact-frame | 'Creationism' | 'Evolutionism' | Explicit 'Secondary Conflict' |
|---|---|---|---|
| 2. philosophical-frame | 'Creationism' | 'Evolutionism' | Explicit 'Secondary Conflict' |
| 3. Practice-frame | 'Reason' | 'Faith' | Explicit 'Secondary Conflict' |
|  | 'Paradigmatic' | 'Practical' | Implicit 'Hidden Difference' |

4.2.1a Example of method

The use of the fact-frame as opposed to the philosophical-frame, in combination with a set of other issue-frames and positions, is strongly correlated on Google Discussion Groups. First, the use of the fact-frame

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as opposed to the philosophical-frame, is an 'inferred difference' and already tells something about a disputant's ideology, in this case let's say it indicates 'Positivism'. Second, the 'Creationism-Faith-Paradigmatic' is a combination of positions that he shares with many disputants (strong correlation: co-variance) and so this 'Positivism-Creationism-Faith-Paradigmatic' stands for an group of disputants that have a common ideology. We thus look both at correlations between issue-frames and correlations within these issue-frames on internet discussion groups to discern ideological-categories. 'Positivism' stems from an 'inferred difference' (correlation between issue-frames), 'Creationism' and 'Faith' stem from 'explicit conflicts' (positions within issue-frames) and the 'Paradigmatic' stems from a 'hidden difference' (implicit positions within issue-frames).

The detection of covariance between and within issue-frames was a cyclical process of observation and theorization. Issue-frames and positions have keywords, key-representatives, and key-discussion groups and/or threads that were used in the search options of Google Groups to detect secondary conflicts, hidden differences, inferred differences or a particular position. First, an exploratory analysis was done to find correlations of secondary conflicts (because these are the easiest to identify). This resulted in a hypothesis for each correlation that was then verified by following a number of disputants that support a similar position. And so the *detection* of issue-frames and positions was mostly 'issue-based' (although supported by key-representatives), while the *verification* of a correlation was mostly 'disputant-based' (following disputants through various discussions). The same method was applied to find correlations between issue-frames (inferred differences) and hidden differences. The 'structure of the discussion' as displayed in figure 4.1.3c helped in the stage of theorization (hypothesizing), but issue-frames (relations between issue-frames) that were not initially conceptualized as an 'inferred difference' were also correlated.

Ultimately, this method led to the identification of four ideological-categories: Objective Evolutionists, Interpretive Evolutionists, Interpretive Creationists, Correct Creationists.

Our method makes clear that ideological-categories do not directly stand for an actual group of disputants, but signify a co-variance between and within issue-frames. Most notably, not all disputants are active within all issue-frames of an ideological-category. A verification of ideological-categories indicated that, although not all disputants fit neatly into an ideological-category, the relation between ideological-category positions is consistent. This 'ideological-category verification' started from a random position of a disputant (a position of a secondary conflict, hidden difference or inferred difference) and then reading all posts of this disputant on various threads (easily collected through the search option of 'author' in Google Groups), to check the relation with other positions. Little inconsistencies were found, but any deviance was conceptualized into a new hypothesis on a particular correlation, and verified in a similar manner.

Ultimately, the initial classification into these four ideological-categories proved to be most significant. Ideological-categories *denote* a co-variance between and within issue-frames, which *connote* a group of disputants with a common ideology. In the following subparagraph, each ideological-category's particular coherence of issue-frames is marked using the overview of all issue-frames in figure 4.1.3a. The red boxes indicate used frames (of which the intensity of red represents the intensity of its use), and white boxes indicate unused frames. The column 'Main Topic' is replaced by 'Stance', to add a particular stance within an issue-frame. The graphic overview of issue-frames for each ideological-category is followed by a summary of the ideology of each ideological-category. This ideology is based on an interpretation of the coherence of issue-frames (secondary data), but was supported by an in-depth analysis of key-representatives of each ideological-category[13] to determine the meaning of 'science', 'religion', 'God', 'Evolution theory' and 'reality' more particularly[14].

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[13] Key-representatives are disputants that represent the issue-frames of a particular ideological-category, which derived earlier from the correlation of secondary conflicts, hidden differences, inferred differences.

[14] To determine the meaning of these concepts, we combined keywords ('search terms') with key-representatives ('author'). All messages were read to interpret the meaning of the concepts (using the integral framework of Chapter 2 in particular).

Objective Evolutionists

| Issue-frame | Subcategories | Kind of relation | Stance |
|---|---|---|---|
| **1. Fact-frame** | | Conflict | Evolution is True<br>Bible is Untrue |
| **2. Philosophy-frame** | Cosmological/Teleological | Conflict | The Origin is Big Bang |
| | Empirical | Conflict | |
| **3. Personal-frame** | Superiority | Conflict | Faith is pre-rational |
| | Personality Type | Independence | |
| **4. Practice-frame** | Empiricism/Rationalism | Dialogue | Science is based on seeing |
| | Rationalism vs. Fideism | Conflict | Faith is stupid |
| | Reason and Faith | Dialogue | Religion |
| **5. Really-real frame** | Monism | Conflict | Matter is real |
| | Dualism | Independence | |
| | Pluralism | Dialogue | |
| **6. Interpretive-frame** | | Dialogue | Science leads to Truth |
| | | Dialogue | Religion is Untrue |
| **7. Societal-frame** | 1. Fact-based | Conflict | 1. Truth is Right<br><br>2. Creationist Movement is driven by political interest |
| | Value-based | Conflict | |
| | 2. Power | Conflict | |

Figure 4.2.2a Issue-Frames of Objective Evolutionists

*Summary of Ideology: Objective Evolutionist:*

Objective Evolutionists are concerned with the truth of evolution and the untruth of the bible. Empirical evidence is provided to disprove the bible and to prove evolution (particularly biological evolution). The origin is not philosophically approached, but empirically ('The Big Bang') and evolution is described in cosmological, geological or biological terms.

The 'superiority-frame' is particularly prevalent. Faith is seen as a pre-rational stage of personal development, and religion is pre-modern. Within the 'practice-frame' they attack fideism, more than discussing rationalism vs. empiricism. They hold that 'seeing matter' is 'really real'. Society is not of interest, but they use fact-based argumentation when it is on the table. Sometimes the 'power-frame' is used to unravel the political interest of the creationism movement.

Religion is backward, and science is not just the right way of knowing, but the right way of living.

'God' is framed in objective terms ($3^{rd}$ person) and does not exist.

'Evolution Theory' is a fact.

Objective Evolutionists hold that reality is 'natural' and 'material'.

| | |
|---|---|
| Relation-thesis: | Conflict |
| Ontology/Epistemology: | Seeing Matter |
| Focus: | The Truth (Objective) |

| Issue-frame | Subcategories | Kind of relation | Stance |
|---|---|---|---|
| **1. Fact-frame** | | Conflict | Evolution is true but does not tell about origin |
| **2. Philosophy-frame** | Cosmological/Teleological | Conflict | The Universe naturally evolved |
| | Empirical/Conceptual | Conflict/Independence | |
| **3. Personal-frame** | Superiority | Conflict | Faith vs. Rationality |
| | Personality Type | Independence | |
| **4. Practice-frame** | Empiricism/Rationalism | Dialogue | Science includes both seeing and thinking (defending rationalism) |
| | Rationalism vs. Fideism | Conflict | Pro-Rationalism |
| | Reason and Faith | Dialogue | Religion |
| **5. Really-real frame** | Monism | Conflict | The Real is Natural Mind and Matter are Real |
| | Dualism | Independence | |
| | Pluralism | Dialogue | |
| **6. Interpretive-frame** | | Dialogue | Science |
| | | Dialogue | Religion |
| **7. Societal-frame** | Fact-based | Conflict | Politics should be based on facts but enable people to life according their own values |
| | Value-based | Dialogue | |
| | Power | Conflict | |

Figure 4.2.2b Issue-Frames of Interpretive Evolutionists

*Summary of Ideology: Interpretive Evolutionist:*

Interpretive Evolutionists are not active in the discussion about the empirical truth of either evolution or the bible, but rather focus on the philosophical debate about the origin.

They see the discussion mostly through the 'practice-frame' and focus on the debate about the scientific method in favour of rationalism. The 'interpretive-frame' is used to discuss philosophies and science. If the issue is considered to be of a social nature, then there is a focus on facts, but a consideration and accommodation of various values (pluralistic).

Religion is factually false but can be a meaningful method for particular lines of personal development. Science is the best method to know the truth and all reality domains should be approached more scientifically.

The word 'God' is not often used, but displays a variety of 1st and 3rd conceptions.

'Evolution Theory' is a good theory.

Interpretive Evolutionists hold that reality is 'natural', but allow for ideas that others frame as 'spiritual'.

Relation-thesis:          Conflict
Ontology/Epistemology:    Seeing Matter and Feeling Mind (pluralism)
Focus:                    Interpretive

| Issue-frame | Subcategories | Kind of relation | Stance |
|---|---|---|---|
| **1. Fact-frame** | | Conflict | Evolution is true but does not tell about origin Bible should be interpreted |
| **2. Philosophy-frame** | Cosmological/Teleological | Conflict | The Universe has a first cause and a direction |
| | Conceptual | Independence | |
| **3. Personal-frame** | Superiority | Conflict | People are equally right |
| | Personality Type | Independence | |
| **4. Practice-frame** | Empiricism/Rationalism | Dialogue | Science is seeing and sometimes irrational |
| | Rationalism vs. Fideism | Conflict | Religion is rational (defending rationalism) |
| | Reason and Faith | Dialogue | Religion |
| **5. Really-real frame** | Monism | Conflict | Mind and Matter are Real Mind is Spiritual and more Real |
| | Dualism | Independence | |
| | Pluralism | Dialogue | |
| **6. Interpretive-frame** | | Dialogue | Science |
| | | Dialogue | Religion |
| **7. Societal-frame** | Fact-based | Conflict | Egalitarianism: all people and all values are equal |
| | Value-based | Independence | |
| | Power | Conflict | |

Figure 4.2.2c Issue-Frames of Interpretive Creationists

*Interpretative Creationist Ideology:*

Interpretive Creationists are particularly active in the philosophical discussion about the origin. They tend to frame the debate as an ideological/conceptual issue (rather than an empirical one) and hold the independence-thesis (sometimes the dialogue-thesis).
They frequently frame the issue as an argument between individuals (personal-frame), in which the conflict is defined as a result of different 'personality types', and sometimes 'personal attitudes'. Another concern is the reason and faith debate, in which they hold that rationality and faith go hand in hand - religion is rational. This group is particularly concerned with the interpretation of religion and religious texts. When the issue is seen in its social domain, they tend to put all perspectives on equal footing (relativism).
Religion should be interpreted and science is valid, but has its own domain.
'God' is defined as $1^{st}$, $2^{nd}$, and $3^{rd}$ person and is seen as a concept of which its meaning depends on the user.
'Evolution Theory' is a correct theory but does not tell much about life or the origin of it.
For Interpretive Evolutionists reality is 'spiritual', but allow for ideas that others frame as 'natural'.

Relation-thesis:         Independence
Ontology/Epistemology:   Seeing/Feeling/Mind/Matter
Focus:                   Relativism (Interpretive)

Correct Creationists

| Issue-frame | Subcategories | Kind of relation | Stance |
|---|---|---|---|
| **1. Fact-frame** | | Conflict | Evolution is Untrue Bible is True |
| **2. Philosophy-frame** | Cosmological/Teleological | Conflict | World is created by God |
| | Empirical | Conflict | |
| **3. Personal-frame** | Superiority | Conflict | Faith is post-rational |
| | Personality Type | Independence | |
| **4. Practice-frame** | Empiricism/Rationalism | Dialogue | Science is misleading |
| | Rationalism vs. Fideism | Conflict | Faith is better than reason (defending fideism) |
| | Reason and Faith | Dialogue | Religion |
| **5. Really-real frame** | Monism | Conflict | Supernatural is real Mind over Matter |
| | Dualism | Independence | |
| | Pluralism | Dialogue | |
| **6. Interpretive-frame** | | Dialogue | No interpretation of science |
| | | Dialogue | Religion interpreted literally |
| **7. Societal-frame** | Fact-based | Conflict | 1. Christians Ethics apply to everybody |
| | 1. Value-based | Conflict | 2. Evolutionism is driven by political interest |
| | 2. Power | Conflict | |

Figure 4.2.2d Issue-Frames of Correct Creationists

Correct Creationists have a particular focus on disproving evolution, mostly by presenting empirical evidence, but also through the traditional arguments against evolution. However, they are not involved in the deep philosophical discussions.

The controversy is also very much seen as a battle between individuals (personal-frame). Faith is considered to be a higher human quality than rationality. They hold that 'feeling spirit' is really real. When the issue is seen in its social domain, they use value-based argumentation or the 'power-frame', in which evolutionism is portrayed as a dominant social institution.

Religion is having faith and science is senseless.

'Evolution Theory' is false because of the facts.

God is framed as a 2$^{nd}$ person.

For Correct Creationists reality is God's reality. It is mostly seen as supernatural.

Relation-thesis:          Conflict
Ontology/Epistemology:    Feeling Spirit
Focus:                    the Good/ the Right (Value)

Before we analyse the results in depth, let us first connect these results to the previous paragraph. The previous paragraph (4.1 issue-frames) exposed that there are many 'explicit conflicts' and 'implicit differences' (listed in figure 4.1.3.c), but because these are not openly cross-correlated on the CE-Groups, there is only a single dichotomy apparent. In this paragraph, we looked at the actual correlation of both the 'explicit conflicts' and 'implicit differences' to detect the number of dimensions, and the number of positions in the discussion as a whole (i.e. the number of 'ideological-categories'). If an 'explicit conflict' or 'implicit difference' does not correlate with the primary dichotomy, then it is an independent variable and introduces a new dimension that doubles the number of positions or 'ideological-categories' in the discussion as a whole (because each conflict/difference is two-sided, i.e. each variable has two 'values' or 'categories'). Hence, we consider the 'explicit conflict' and 'implicit differences' as variables, of which each variable contains two values.

We found that the explicit conflicts could be generally divided into two ideological-categories which corresponded to the primary dichotomy (creationism/evolutionism). The implicit differences could also be generally divided into two ideological-categories (positivism/interpretivism), but these categories did not correlated with the primary dichotomy and thus introduced a new dimension, doubling the number of general positions in the discussion as a whole into four ideological-categories. In summary:

- There is a single significant correlation between all positions of explicit conflicts on Google Discussion Groups.
- There is a single significant correlation between all positions of implicit differences on Google Discussion Groups.
- There is no significant correlation between the explicit categories and implicit categories on Google Discussion Groups.

This means that there are two dimensions, each comprising two positions (explicit: creationism/evolutionism and implicit: positivism/interpretivism) that together produce the four group categories by cross-correlation: Objective Evolutionists (positivistic evolutionists) Interpretive Evolutionists, Interpretive Creationists and Correct Creationists (positivistic creationists). 'Interpretivists' are moderates (the two middle categories), 'Positivists' are extremists (at the edge of the Creation-Evolution continuum).
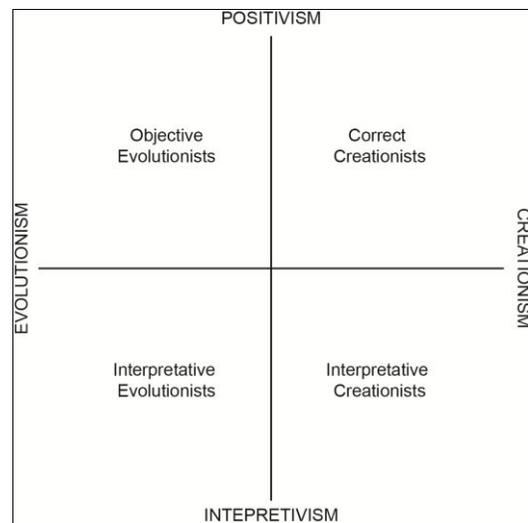
As explained in '4.2.1 Introduction and Methodology', this analysis is not accurate enough to discover or to rule out specific 'sub ideological-categories' (we would need quantitative statistical analysis, which is problematic in this type of research). For example, variable 5 and 6 ('Empiricism vs. Rationalism' and 'Rationalism vs. Fideism', within the practice-frame) and variable 7 (Fact vs. Value, within the societal-frame), did not show a strong correlation with the primary dichotomy. On the other hand, these variables did appear to have some correlation with the primary dichotomy and could not count for a new dimension. These four ideological-categories derive from the overall correlation of all differences and thus show two main variables on which ideologies differ. Our method makes clear that ideological-categories do not directly stand for an actual group of disputants, but signify a correlation between and within issue-frames. Although disputants generally do not fit neatly into an ideological-category, these two continuums provide the most accurate way for differentiating ideologies. We thus talk about categories, rather than groups.

Based on the correlation between and within issue-frames, the ideological-categories relate to each other in the following ways:

| | Objective Evolutionist | Interpretive Evolutionist | Interpretive Creationist | Correct Creationist |
|---|---|---|---|---|
| **Objective Evolutionist** | x | Fact vs. Concept Positivism vs. Interpret. Monism vs. Pluralism Practice vs. Paradigm Empiricism vs. Rational. | Fact vs. Concept Positivism vs. Interpret. Monism vs. Dualism Natural vs. Spiritual Practice vs. Paradigm Empiricism vs. Rational. Rational. vs. Fideism Fact vs. Value | Matter vs. Mind Natural vs. Supernatural Rational. Vs. Fideism Fact vs. Value |
| **Interpretive Evolutionist** | Concept vs. Fact Interpret. vs. Positivism Pluralism vs. Monism Paradigm vs. Practice Rational. vs. Empiricism | x | Pluralism vs. Dualism Natural vs. Spiritual Fact vs. Value | Concept vs. Fact Interpret. vs. Positivism Pluralism vs. Monism Natural vs. Supernatural Practice vs. Paradigm Rational. vs. Fideism Fact vs. Value |
| **Interpretive Creationist** | Concept vs. Fact Interpret. vs. Positivism Dualism vs. Monism Spiritual vs. Natural Paradigm vs. Practice Rational. vs. Empiricism Fideism vs. Rational. Value vs. Fact | Dualism vs. Pluralism Spiritual vs. Natural Value vs. Fact | x | Concept vs. Fact Dualism vs. Monism Interpret. vs. Positivism Spiritual vs. Supernat. Practice vs. Paradigm Rational. vs. Fideism |
| **Correct Creationist** | Mind vs. Matter Supernatural vs. Natural Fideism vs. Rational. Value vs. Fact | Fact vs. Concept Positivism vs. Interpret. Monism vs. Pluralism Supernatural vs. Natural Paradigm vs. Practice Fideism vs. Rational. Value vs. Fact | Fact vs. Concept Monism vs. Dualism Positivism vs. Interpret. Supernat. vs. Spiritual Paradigm vs. Practice Fideism vs. Rational. | x |

In appendix 5, the 'implicit differences' (conceptual convergence between issue-frames) and 'explicit conflicts' (actual convergence within issue-frames) between each ideological-category are outlined separately. Moreover, we include the notion that some differences are defined according the conflict-thesis, while other relate to each other according the dialogue-thesis. We can conclude that the ideological-categories relate in the following way:

| | |
|---|---|
| Objective Evolutionists – Interpretive Evolutionists: | Outspoken Dialogue Intragroup |
| Interpretive Creationists – Correct Creationists: | Outspoken Dialogue Intragroup |
| Objective Evolutionists – Correct Creationists: | Outspoken Conflict Intergroup |
| Objective Evolutionists – Interpretive Creationists: | Outspoken Conflict Intergroup |
| Interpretive Evolutionists – Correct Creationists: | Outspoken Conflict Intergroup |
| Objective Evolutionists – Correct Creationists: | Outspoken Conflict Intergroup |

Hence, there is only 'conflict' between 'Creationists' and 'Evolutionists' (intergroup discussions), there is only 'dialogue' among 'Creationists', or among 'Evolutionists' (intragroup discussions), and there is unspoken common ground among 'Interpretavists' and 'Positivists'.

To make sense of these results we relate it to the concept of mutual understanding. In 3.1 we explained the theory of mutual understanding in terms of integral theory and relate it to this research. In 3.1.3 we described two problems for mutual understanding related to the ideological dimension: 'the problem of metaphysical worldspace' and 'the problem of culture or semantics'. In summary; the first indicates that disputants enact a different world, the second indicates that disputants use different words to describe a similar world (or 'attribute a different meaning').
On CE-Groups, disputants with similar perspectives meet each other in discussions. They enact a similar worldspace, but attribute a different meaning to this world. This difference in meaning takes various forms, but is generally between 'natural vs. spiritual'. This is the culture-clash between what we identified as 'Creationists' and 'Evolutionists'. Since we define frames as perspectives, these are conflicts within frames (explicit conflicts). 'Creationists' and 'Evolutionists' can encounter each other within different discussions, in different worlds (represented by the 'implicit differences').
'Positivists' and 'Interpretativists' enact different perspectives and thus do not meet. Since frames are defined as perspectives, the difference becomes apparent in the correlation *between* frames. They are generally active in different discussions or do not discuss with each other. These differences are thus implicit.

This means that the online creation-evolution controversy is not so much a clash of metaphysical world-views, but of clash of cultures. There is a difference in the attribution of meaning (calling the world 'spiritual' or 'natural') and this is what the discussions are about. Although 'Positivists' use similar perspectives/frames, they are extremists and appear to have a monistic ontology that does not accommodate other views. Interpretativists however, are moderate pluralists/pragmatists and might be able to reach mutual understanding if the discussions on the CE-Groups would not be structured according the primary dichotomy and they would have a space to meet.


### *4.2.4 Conclusion*

There are four ideological-categories based on a correlation of issue-frames (correlations within and between issue-frames). There is only 'conflict' between 'Creationists' and 'Evolutionists' (intergroup discussions) and only 'dialogue' among 'Creationists' or 'Evolutionists' (intragroup discussions). There is unspoken common ground among 'Interpretativists' and among 'Positivists'. Conflicts are overstated and communalities are understated. This means that the online creation-evolution controversy is not so much a clash of metaphysical world-views (between frames), but of clash of cultures (within frames). There is thus a difference in the attribution of meaning: natural vs. spiritual. Although creationists tend to frame issues as spiritual and evolutionists tend to frame issues as natural, there are two moderate groups (interpretive evolutionists and interpretive creationists), who seem to have considerable overlap in metaphysical thought (moderate pluralists/pragmatists, allowing for multiple realities). This does not become apparent in the discussion because each issue is interpreted separately, and structured as a dichotomy.

## 5. Identity-Frames and Identity-Groups

*"Just to make everybody's day I thought I'd open up a thread dedicated*

*to gratuitously slagging me off. I'll make no questions or present any*

*ideas. They are very rarely responded to anyway. So, I'll just open up*

*a thread dedicated to slagging me off for no particular reason. That's*

*what most threads diminish to anyway so why bother trying to stimulate*

*some open discussion of some kind."*

*(talk.origins, Google Group)[xxxvii]*

The previous chapter showed that the issue is generally framed as a two-sided conflict over 'One Objective Truth' but that -based on the correlation of issue-frames- there are actually four ideological-categories. In this chapter we will examine whether disputants themselves distinguish four identity-groups (in line with the ideological-categories), or whether they distinguish only two identity-groups (in line with the dichotomy of issue-frames). Moreover, we will see how the issue-frames and ideological-categories relate with the identity-frames and identity-groups. Do disputants differentiate ideas and identities in the same way (i.e.: by using similar frames) or is there an incoherence between how people make sense of the issue and identity? Although this chapter is aimed at understanding the social dimension of the online creation-evolution controversy, the combination of results of our issue-framing analysis and identity-framing will tell more about each dimension, and about the relation between ideas and identities in particular.

This chapter presents the methods and results of our identity-framing analysis which is aimed at enlightening the social dimension of the online creation-evolution controversy. In 5.1 we describe the basic techniques used for the identity-framing analysis. In 5.2, the group formation process is analysed to see how disputants identify or relate to one another. In 5.3, we detect the referent-frames (social categories, stereotypes and personal traits) that disputants use to signify identity. In 5.4, this is analysed to deduce identity-frames which represent basic principles or windows that disputants use to make sense of identity. In addition, we examine the use of identity-frames of each identity-group and then compare them to see whether identity-groups use different frames to make sense of identity.

In '5.2 Group Formation' we look at the process of group formation. In particular, we want to find out whether group formation occurs through interpersonal communication, or prior to (independent of) interpersonal communication. If disputants are grouped *before* there is interpersonal communication (i.e.: if disputants first read the other's posts to determine the other as in- or out-group member and then react only to outsiders in a particular way), then there is no interpersonal communication free from group-bias. This clarifies the problem of intention or identity, described in 3.1.

In '5.3 Referent Frames' we analyse how people are called or 'referred to'. This leads to 'social categories', their stereotypes (what does the social category stand for), and the personal traits they represent (what personal traits does the social category reflect). If disputants use social categories mainly for out-groups, this indicates the out-group homogeneity effect.

In '5.4 Identity-groups and Identity-frames' we first deduce identity-frames from the referent frames. Whereas referent frames are based on literal labels, identity-frames are the perspectives that disputants enact to understand and/or represent identity. These are the basic parameters or principles that are used to make sense of identity. The correlation between and within identity-frames leads to identity-groups. We will determine if the different identity-frames indicate positive distinctiveness.

## 5.1 Introduction and Method

Framing is perspective-taking, and since perspectives are by definition relational, perspective-taking signifies social relations. Identity-framing is not just about what disputants call each other, but about how disputants relate to each other. In accordance, an identity-framing analysis does not just focus on the labels that disputants use to put onto people, but on the process of identification through perspective-taking. Basically this means that we first look at how disputants relate to one another (5.2) and second at what disputants call each other (5.3). The analyses and results of 5.2 and 5.3 are then used to define the identity-frames and identity-groups in 5.4.

In chapter 3 we explained that framing is not just about how people formulate something in the presumably already present pre-given exterior world, but about taking particular perspectives that disclose particular worlds. This is especially relevant for the creation of a social world of individual and group identities. There is no such thing as an individual or a group: an individual only comes into being when a person is seen as a separate entity, detached from other people, and a group only comes into being when persons are seen as a unified entity, detached from other groups. On internet discussion groups, people only come into being as either a first-, second-, or third-person. In addition, these 'persons' come in either the singular *or* plural form, *and* are either subject *or* object. So before anything can be said about anybody, this anybody needs to be specified into somebody. As defined in 'Conceptual Framework' without perspective-taking, nothing can be said. In other words, before people can be labelled, they must be noticed or noted, and whenever anybody is noted it becomes a particular social person through the enacted perspective. Disputants are always identified in a particular way through the triadic quadratics perspective that is enacted and puts the disputants into a particular grammatical person. A personal pronoun inherently relates in a particular way to other personal pronouns (indicated by the interdependence of personal pronouns in the linguistic structure), and thus is a social person (a person that inherently stands in a particular relation to other persons).

The meaning of a pronoun *is* an 'identity', because the entity or 'noun' is identified (defined) through the pronoun. Linguistically the pronoun stands for the noun (it does not say anything about the noun, it is the noun). All personal pronouns are deictic, (words of which the denotational meaning varies). A personal pronoun, such as "we" has an indexical meaning ("first-person plural, subjective"), and a semantic (denotational) meaning which differs per context, signifying either general categories such as "creationists", "scientists", or a particular group of disputants within the thread. In general, 'groups' refer to disputants within the conversation, while 'categories' refer to groups of people outside the conversation.

First, the indexical meaning is relevant for exploring *how* disputants *relate to each other*. The indexical meaning of pronouns is extensively explained in 3.4.2. The semantic meaning of a pronoun needs to be interpreted within the (con-)text. The meaning is found either within the text (endophora reference) in which case the meaning linguistically derives from the text, or outside the text (exophora reference). To infer the meaning of pronouns (identity) we thus apply both linguistic methods (exact) and discourse-analysis (interpretive). If a pronoun's semantic meaning is a group of disputants within the thread we call it a relational pronoun, if the semantic meaning is a general social category we call it a referential pronoun. Endophoric or exophoric reference (intratextual and extratextual reference) do not correspondingly refer to relational pronouns or referential pronouns (the meaning of a pronouns); a referential pronoun can be referred to within the text.

When plural pronouns have relational meaning ('relational plural pronoun'), this can directly indicate an identity-group; a group of disputants with a shared identity. For example, in "as *we* were saying, *you* do not understand evolution theory", both "we" (indexical meaning: first-person plural) and "you" (indexical meaning: second-person plural) might refer to a group of disputants within the conversation (relational pronoun). Third-person relational pronouns generally indicate that a disputant is put outside the conversation. For example, in "he is talking nonsense", "he" (indexical meaning: third-person) might refer to a disputant within the conversation (relational pronoun).

Mostly, plural pronouns refer to a reference category (referential meaning). For example, in "they are stupid", "they" (indexical meaning: third-person plural) might refer to creationists in general. This can also be indicative for group formation within the conversation, because these categories signify how identity is understood in general.

The methodology of the identity-framing analysis is presented in figure 5.1a. In '5.2. Group Formation' we first focus on how disputant relate to each other through a conversation analysis. In '5.3. Referent-frames' we focus on what disputants call each other by listing all reference categories, traits and their relations that derive from the text, to cluster and generalize these references into 'referent frames'. The referent-frames are conceptualized into five social categories, with stereotypes and traits. In '5.4 Identity-frames and Identity-Groups' we deduce the identity-frames from the analysis of 5.2 and 5.3, and determine the identity-groups based on a correlation of the use of identity-frames.
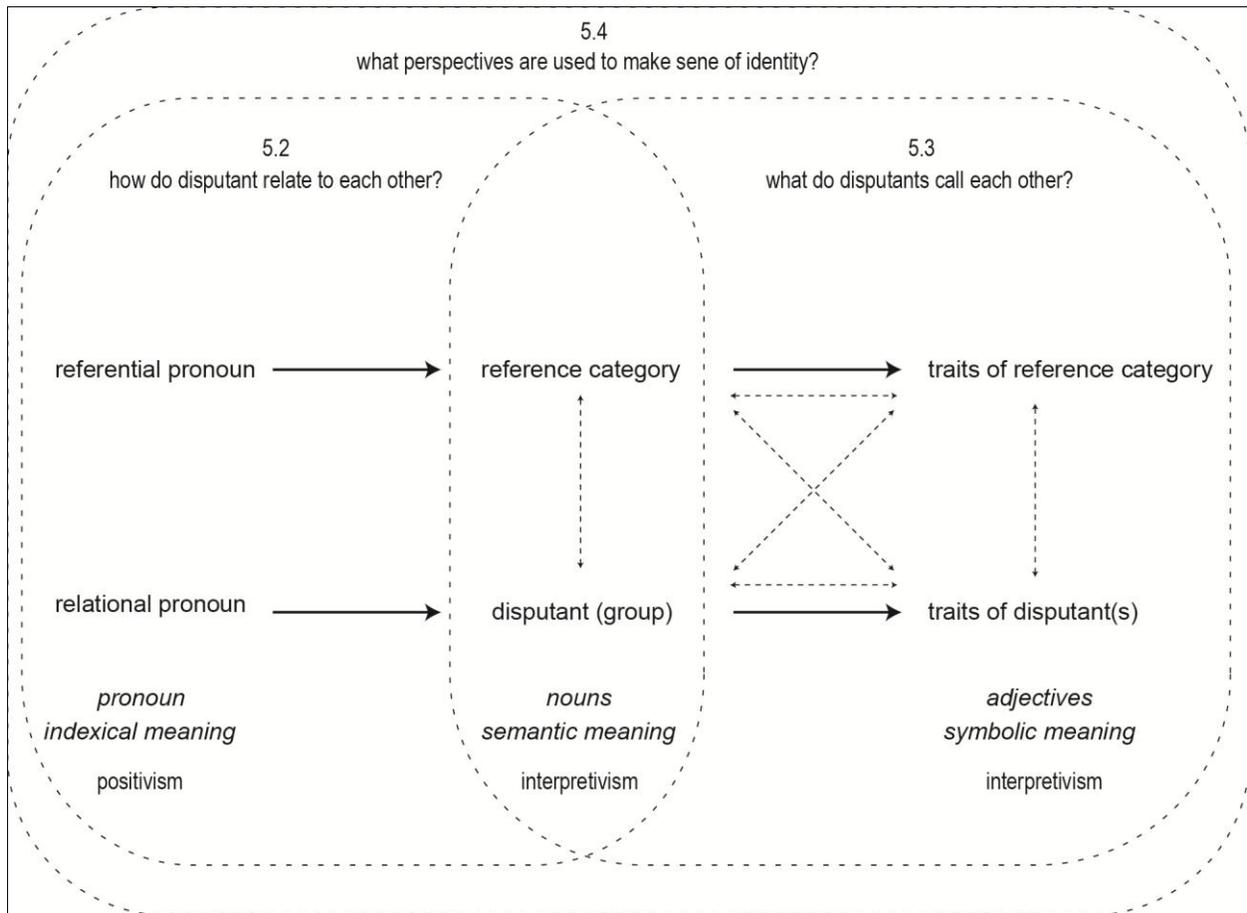


Figure 5.1a Methodology of the identity-framing analysis (Tim Stevens, 2012)

For the identity-framing analysis we used a combination of search methods and text-analysis of which an overview is presented in figure 5.1b. For the text-analysis we tagged and annotated: Minimal cues, Reference categories, Referential pronouns, Traits of reference group, Plural Relational pronouns, Third-person Relational Pronouns, Traits of person.

Tags:

1 Minimal cues
2 Reference categories
3 Referential pronouns
4 Traits of reference category
5 Plural Relational pronouns
6 Third-person Relational Pronouns
7 Traits of person

Annotation:

Minimal cues to Reference category
Referential pronouns to Reference category
Traits of reference category to Reference category

Plural Relational pronouns to Disputants
Third-person Relational Pronouns to Disputants
Traits of person to Disputants

After analysis, we could also annotate:

Reference categories and traits to social categories
Social categories to Social groups
Disputants to Social groups

'Social group' : a group of disputants that consistently relate to each other in a particular way
'Social category': a group of reference categories and traits

Search Methods

Referent-frames served as Key-words for search methods
Disputants served as Key-representatives for search methods

Figure 5.1b Overview of methods used for the identity-framing analysis

We used this method in various ways for generating different results, presented separately in each paragraph. Here, an overview is provided to show how the methods of the various paragraph relate:

In 5.2 we analysed *how* disputants relate to each other through a conversation analysis and a text-analysis. Minimal cues are hints within the conversation that indicate (and mostly precede) a reference category. We tagged and annotated minimal cues interpretively; not through linguistic methods. The minimal cues serve disputants to identify other disputants as insider or outsider. Through some other

methods[15], we found that the discussion on the CE-Groups as whole (in diverse threads) is split into two consistent groups of disputants. The online creation-evolution controversy thus hosts two social groups[16].

In 5.3 a list of all reference categories and traits from the texts[17], was clustered and generalized into referent-frames. Referent-frames reflect *what* disputant *call each other*, and we defined these in terms of social categories (e.g. Atheists), their stereotypes (what does the social category stand for), and the personal traits they represent (what personal traits does the social category reflect).

The same list of reference categories and traits (data) together with the conceptual referent-frames of 5.3 were used to deduce identity-frames in 5.4. Whereas referent-frames are generalizations of how disputants refer to each other, identity-frames are the perspectives used to make sense of identity. Based on a correlation within and between identity-frames, we defined identity-groups. Identity-groups thus indicate a group of disputants that enact similar identity-frames. Since identity-groups use similar frames, they also *have* a similar identity. It is no surprise that the social groups of 5.2 (based on *how* disputants *relate* to each other) correspond with the identity-groups (based on a correlation of identity-frames).

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[15] By following 'relational pronouns' within a thread we found that it almost always refers to just two groups of disputants in the discussion. By following disputants within a thread we found that they always belong the same group of disputants. Moreover, by following two productive authors (disputants) over several threads we found that their relation was always similar (either in the same group or within two different groups).

[16] In Social Science, a social group is defined as a group of people that share similar characteristics and collectively have a sense of unity. In this research it represents a group of disputants on the CE-Groups as a whole that according the analysis of 5.2 share particular similar characteristics (consistently relate to each other in a particular way) that point to a sense of unity.

[17] A list of all reference categories and traits included 1) the relation between reference categories, 2) the relation between traits, and 3) the relation between reference categories and traits, *that could be inferred within the conversation.*

## 5.2 Group Formation

In this paragraph we explore how disputants become grouped within the communication process of the CE-Groups. In particular, we want to know whether group formation occurs actively through interpersonal interaction ('talking with you'), or passively prior to interpersonal interaction ('reading the other', ('lurking' in online terms) and only then responding to out-group members). These two views are represented by two theories that explain group formation: the social cohesion approach holds that people form groups *through interaction or interpersonal communication,* while the social identity approach holds that people form groups cognitively, when they internalize the same social category membership as a component of their self-concept, *independent of, or prior to interpersonal interaction* (Hogg, M. et al., 2000). With interpersonal interaction we mean message sending and reception between two or more individuals on the CE-Groups. The social cohesion approach holds that social groups are based on expressions of cohesive social relationships between individuals, while the social identity model assumes that "psychological group membership has primarily a perceptual or cognitive basis" and that an "awareness of a common category membership" is enough for group formation (Tuner, J. C. 1982, 15-20).

To find out whether group formation occurs *through* interpersonal communication or *prior to, or independent of*, interpersonal communication, we examine whether disputants employ *interactive strategies* (talk directly with the other to inquire group membership) or *passive strategies* (read the other's posts, define someone as either an insider or outsider, and then start to communicate interpersonally, 'respond to', outsiders). As described in 3.1.3, mutual understanding requires 'dialogue'[18], which according Gadamer implies questioning, engaging, and participating in order to fuse horizons and create shared meaning. This is an active or interactive strategy. If group formation occurs prior to, or independent of, the actual interpersonal interaction, this means that there is no communication without group-bias. It signifies the problem of intention or identity as described in 3.1.3.

We conduct a conversation-analysis and look at several phenomena that are indicative for the process of group formation, such as feedback (who responses to whom, in what way, and how often?), threads (the amount of messages and disputants within a thread), the communication mode (interpersonal or intergroup), processes of 'grouping' (through the use of plural personal pronouns), and processes of 'impersonalization' (through the use of third-person personal pronouns).

In communication, receivers are not just passive absorbers of messages; they receive the message and respond to them. This response of a receiver to a sender's message is called feedback. A quantitative and qualitative analysis was conducted to indicate the level of feedback.

To calculate the amount of feedback on the CE-Groups we did not conduct a comprehensive statistical analysis that covered the complete database, but took a sample from all groups and estimated the average level of feedback within this sample[19]. We consider the amount of messages and users within a thread as indicators of feedback. In this sample, the average amount of messages within a thread is 5, and the average amount of users within a thread is 3. Hence, a 'discussion' is on average just 5 messages long and comprises just three disputants. We estimated that the majority of the threads contains less than 10 messages. Approximately 15% of the threads contains just one message, indicating that a thread is started with a post or a question and that there are no responses at all. If threads include more than 10 messages, then they become popular and can easily reach up to 50 messages and 10 Users. This means that many disputants turn to a particular thread which then becomes long (many posts) and broad (many disputants). On the whole, the small amount of messages and users within a thread,

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[18] Note that in this chapter 'dialogue' refers to a communication mode, whereas in the previous chapter 'dialogue' referred to the dialogue-thesis (or a non-conflicting relation within an issue-frame).

[19] 1) search on five different dates (10th of January from 2007 to 2012), within all Groups of the database, 2) take the average amount of users and the average amount of messages of the first 30 threads of each timeframe, 3) calculate the average amount of users and the average amount of messages of all timeframes).

suggests that there is little feedback on the CE-Groups, but a text-analysis is needed to study what happens within the thread.

A qualitative text-analysis showed that messages are not always directed to another user ('addressing'), and not always a response to another user ('responding'), and thus do not count as 'feedback'. Generally, users react to other users when they disagree. Hence, feedback in general is indicative for group formation, because "you" are an outsider. There is thus communication between users who disagree, and this disagreement often intensifies through communication. Threads end with a number of non-responsive messages. Although these messages might address a particular user, the message itself is not responsive to another message. The last few posts are often of different users, and when none of these posts is responded to in particular, the thread dries up.

The communication mode is mostly interpersonal "I am talking to you" (not intergroup "We are talking to them"). However, when plural pronouns are used this is directly indicative for the process of group formation. If plural pronouns are used to refer to disputants (relational meaning), this indicates a group. By following 'relational pronouns' within a thread we found that it almost always refers to just two groups of disputants in the discussion. By following disputants within a thread we found that they always belong the same group of disputants. Moreover, by following two productive authors (disputants) over several threads we found that their relation was always similar (either in the same group or within two different groups). Hence, group formation always divides disputants in just two social groups. The social groups indicate groups of disputants on the CE-Groups as a whole, that consistently relate to each other in a particular way (through particular relational pronouns and particularly respond to the same disputants: outsiders).[20]

In the following quote, the in-group and out-group are explicitly formulated through the use of first-person plural and third-person plural ("we creationists" and "you evolutionists", respectively).

*"This is for you evolutionists who continue to claim to never have even heard of creation theory despite the fact that we creationists continue to post such"* (talk.origins, Google Groups)[xxxviii]

Mostly plural pronouns refer to a reference categories in general (referential meaning). This is also significant for the group formation process because the reference category reveals how people (including disputants) are categorized. When a reference category is framed, other disputants usually continue to use this categorization, or frame the issue and identity accordingly. Reference categories are mostly used for out-group members. This indicates the out-group homogeneity effect. A reference category stands for a particular stereotype that represents particular personal traits.

To understand the group formation as a process within a thread, we analysed threads from the start till the end. We found that a first message of each disputant within a thread already conveys assumptions about the identities of others. This is because users of Google Groups can first read all posts before they are actually part of the discussion. On online culture, this process of reading without writing is called 'lurking'. In reading a conversation, a disputant can pick up many minimal cues that are indicative for social categories[21]. Social categories are not groups of disputants within the conversation but general categories for labeling people, such as 'Christians'. If disputants implicitly talk about people 'in the image of god' this is a minimal cue for 'Christians'. The social category seems to simply be considered as either an in- or out-group. This means that social categories do not just produce various labels, but determine whether disputants are insiders or outsiders within the conversation. This suggests that there are only two social groups. Because disputants typically respond to, or address, outsiders, interpersonal communication is typically already between two different groups, who are not in dialogue but in conflict. The social category is then made explicit in the conversation, which is followed by ascribing personal traits to the other. In extreme cases it ends with 'impersonalization' through the use of third person pronouns to refer to disputants within the conversation.

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[20] In social science, a 'social group' indicates a group of people with similar characteristics that share a sense of unity.

[21] A reference category is the literal category referred to in the text (textual level), the social category is a generalization of various reference categories and traits (and thus on the conceptual level), as elaborated in 5.3

To verify this theory we tagged and annotated relational plural pronouns, relational third persons, minimal cues, reference groups and traits. Below, is an illuminating example that indicates the method and the results.

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Tags:
**Minimal cues**: not personal traits, or attributions, but hints for in- or out-group
**Reference group**: minimal cues lead to the ascription of Christian, a reference group
**Traits**: The group category leads to the ascriptions of personal traits.
*Relational pronouns are in italic*,
**Third-persons in bold**

---

Thea: 'But what if the supposed advances will destroy all of civilization'

Ian: 'The common sense of the human race has brought us forward and will also save us from destruction. We do not need to rely on a mythical image *Thea*.

Thea: If *you* believe that -- *you* have your head buried in the sand box. How old did *you* say *you* were?[...] When you see all the ills in the world, it either causes you to dismiss reality, because it causes a Christian to get on their knees.

Ian: Getting on your knees only give *you* arthritis, Get real *Thea*

Philosophy: I think it's a bit late for **Thea**. **She** lives in a world of delusion. Let **her** die there. It would be a kindness.

---

In this example it becomes clear how messages can first contain numerous minimal cues for a social category. 'Thea' talks about "destroy all civilization" presumably referring to the day that God will condemn humanity on earth ('The Last Judgement'). 'Ian' confirms this, or tries to verify this by framing this as "a mythical image". Moreover he reflects his own worldview by talking about "*the common sense* of the *human race* that has brought us *forward*", not about "*faith* of *man* that leads to *God*" for instance. Since 'Ian' addresses 'Thea' to tell that "we do not need to rely on a mythical image" and thereby further elucidates the social category, Thea responds by ascribing personal traits (e.g. "your head buried in the sand box") and does not hesitate to make the social category 'Christian' explicit. In this example, Thea is eventually 'impersonalized' by Philosophy through the use of third-person pronouns. When 'Ian' uses "Thea" he is *addressing* Thea (2nd-person), but when Philosophy uses "Thea", he is *referring* to Thea (3rd-person). Moreover, the words "she" and "her" directly refer to 'Thea' as a third person.

In summary we identified the following sequence in the process of group formation within a thread:

First:
*"I am reading you" (lurking)*
*Minimal cue for social category (e.g. 'mythical image')*
*Categorization in either in-group or out-group*

Second:
*"I am talking to you-Christian"*
*Responding to out-groups.*
*Identification by making the social category (which was implicit) explicit through a reference group (e.g. 'Christian')*

Third:
*"I am talking to you-dumb"*
*Ascribing traits to the person (e.g. numb, dumb, irrational, submissive, narrow-minded, etc.)*

*Conclusion*

We can conclude that disputants group an other before talking with the other: group formation occurs prior to interpersonal communication, based on minimal cues for social categories. Interpersonal communication explicates two social groups (groups that consistently relate to each other in a particular way), and intensifies social divergence.
There is no interpersonal communication without group-bias. Group-bias can become manifested through the homogeneity-bias and positive distinctiveness which we examine more closely in the succeeding paragraphs.
There is no dialogue because there is little feedback in general and because feedback is only directed to outsiders when they disagree ("you" are in the out-group) signifying 'the problem of intention or identity' in mutual understanding.

## 5.3 Referent Frames

The previous paragraph looked at *how* people relate to each other, in this paragraph we look at *what* disputants call each other. The previous paragraph suggested that there are two social groups, in this paragraph we look at what groups are referred to. These 'referent-frames' are based on the explicit words that disputants use to label themselves, the other, or a group.

Referent-frames are likely to differ per Google Group. From our database, the 'Atheism vs Christinity' and 'Creation vs Evolution' for example, presumably contain different frames used to refer to identity. All six Groups from the database are already based on a search on "creationi*" and "evolutioni*", and so searching again on "creationi*" and "evolutioni*" for threads within these Groups would not represent the online creation evolution controversy (see 'Method'). Results would then simply be in accordance with the search method to generate a sample and produce "creationists" and "evolutionists" as referent-frames. We thus analysed threads on each Group from the database to generate hypotheses on referent-frames, which were then conceptualized into keywords as indicators of hypothetical referent-frames to search for threads within all Groups from the database. Although we analysed only a small percentage of the text from our database, the results derive from the database as a whole and are thus representative for the online creation-evolution controversy.

Within the texts, we derived hypotheses on referent-frames by tagging and annotating plural relational pronouns, referential pronouns, and traits of reference categories and traits of disputants. In the texts, reference categories were often explicitly coupled with traits, as apparent in the following quote.

*And here we are, and there they are, still blabbering about a topic they can't even define. That's how stupid creationists are.* (Alt.Atheism, Google Groups)[xxxix]

Tags: **reference group, Traits,** *Relational pronouns*

This method resulted in a list of reference categories and traits. If there was a direct relation between a reference category and traits within the conversation, then we coupled these references (usually 'nouns') with traits (usually 'adjectives'). A relation was either 'intratextual', derived positively/linguistically, or inferred from the conversation. The list of reference categories and personal traits thus included connections.

Although 'evolutionists' and 'creationists' are the reference categories most often used, the meaning connected to these categories differs strongly. Since these terms refer to nothing in particular they show insignificant in our results. Other seemingly neutral reference categories, such as 'Christians' and 'Atheist', do relate to particular attributes. On the whole, reference categories have a negative connotation and/or are related to negative traits. This is because they are mostly used for describing out-groups. This confirms the out-group homogeneity effect. A reference category thus indicates a negative stereotype.

The list of reference categories, traits and connections was clustered and generalized into referent-frames. We looked at the relation between reference categories, the relation between traits, and the relation between reference categories and traits. The most used reference categories were seemingly neutral 'social categories', such as 'Atheist' and 'Christian' (rather than reference groups such as 'Apes' and 'Heathens'). We thus clustered the reference categories under these social categories. A 'social category' (conceptual general level) is thus also often used as a reference category (empirical level), but includes a range of references. Hence, from the list of 'reference categories' and 'traits' (literal labels) and some connections, we deduced basic referent-frames, which include 'social categories', their corresponding 'traits', and 'stereotype'. The stereotype resulted from the connection between negative traits and the social category (which included a range of reference categories with a negative connotation).

The results are presented on the next page in figure 5.3, of which the social categories are displayed in order of salience. We thus define social categories, their stereotypes (what does these reference categories stand for), and their personal traits (what personal traits are attributed to this reference category). The stereotype and traits are formulated in our own terms because they are

generalizations/conceptualizations from the reference categories and traits. Although these words are generalizations, they do contain the connotation of the words used on the CE-Groups.

We distinguished five social categories (based on the relation between reference categories, the relation between traits, and the relation between reference categories and traits): 'The Religious', 'The Scientists', 'The Atheists', 'The Christians' and 'The Spiritual'.

'The Religious' belief in the supernatural, as if 'there is more' – Transcendental Reality
'The Scientists' know only half of the truth, and forget the moral and esoteric – Materialists
'The Atheists' belief that everything is natural, nothing is sacred - Naturalists
'The Spiritual' belief everything is divine  – Spiritual Immanence
'The Christians' belief in what's told (in the Bible) - Devotee

'The Atheists' and 'The Spiritual' disagree about the <u>nature of reality</u>
'The Religious' and 'The Scientists' disagree about <u>extend of 'reality'</u>

| Social category (reference categories) | Stereotype | Traits |
|---|---|---|
| 1. "The Religious" | **Believer**<br><br>Idealist, Supernaturalist<br>Conformist | Ignorant, Irrational, Faithful, Conventional, Naive |
| 2. "The Atheists" | **Disbeliever**<br><br>Heathens<br>Materialist, Naturalist<br>Close-minded | Superficial, Senseless, Unfaithful, Profane, Blasphemous, Impious, Sinful |
| 3. "The Scientists" | **Non-believer**<br><br>Narrow-minded and Hard-headed | Limited, Narrow-minded, Hard-headed, Bigoted, Immoral |
| 4. "The Christians" | **Devotee**<br><br>Follower, Disciple, Crusader | Piety and Phony, Orthodox, Dogma, Insular, Blind-faith, Submissive, Credulous |
| 5. "The Spiritual" | **New-age**<br><br>Idealist, Dreamer, Mystical | Dreamy, Wraithlike, Ethereal, Eerie, Softy, Waiflike, Fragile, Hippy, Gullible |

Figure 5.3 Referent Frames

The 'reference categories' most often used are 'evolutionists' and 'creationists' but since these do not indicate particular traits they are insignificant as referent-frames. Other seemingly neutral reference categories, such as 'Christians' and 'Atheist', do relate to particular attributes. On the whole, reference categories have a negative connotation and/or are related to negative traits. This is because they are mostly used for describing out-groups. This confirms the out-group homogeneity effect. A social category (conceptual level) thus indicates a negative stereotype.

## 5.4 Identity-Frames and Identity-Groups

In this paragraph we define the identity-frames (perspectives that are enacted to understand and represent identity) and identity-groups (based on the correlation between and within identity-frames). An identity-frame is the perspective that is enacted to make sense of identity. In other words, identity-frames are the windows through which identity is understood. An identity-group is a group of disputants that use similar identity-frames.

We thus follow a similar conceptualization and method as in the issue-framing analysis. In the issue-framing analysis we first grouped the various topics talked about ('education', 'astronomy', 'biological history', 'the bible', 'the scientific method', etc.) into main themes: The Origin, Science, Religion and Politics. Likewise, in this identity-framing analysis we first grouped the various labels or 'references' (groups talked about) into referent frames that consist of five social categories: 'The Religious', 'The Scientists', 'The Atheists', 'The Christians' and 'The Spiritual'. Just as an issue-frame is not the topic talked about, but a perspective that determines 'what's at issue', so is an identity-frame not the group talked about (the label put onto people), but a perspective that determines how people are seen. We will now explain how perspectives relate to identity and how identity-frames were deduced from the analysis and results of 5.2 and 5.3.

As shown in '5.1 Introduction and Method', perspectives are apparent in the text through the indexical meaning of a personal pronoun. This meaning is independent of the context so that each personal pronoun can be directly translated (positivism) into perspectives, such as "we" into "first-person plural perspective". In addition, each personal pronoun also has a semantic (denotational) meaning which differs per context, signifying *either* a general category (referential pronoun) *or* a particular group of disputants within the thread (relational pronoun), known through interpretation. The *meaning* of a pronoun *is* an 'identity', because the entity or 'noun' (whether it refers to something or somebody within the conversation or outside the conversation) is identified (defined) through the pronoun. Linguistically the pronoun stands for the noun (it does not say anything about the noun, it is the noun).

In '5.3. Referent frames' we listed all the nouns and adjectives related to identity and the relations that could be derived from the text. The use of a noun indicates a perspective. As described in 3.4.3 one can define a disputant as 'Religious' or 'Christian'. This was illustrated by clustering and generalizing nouns and adjectives into five social categories, that each represent a particular stereotype ('Believer' or 'Devotee') and particular traits ('Dumb' and 'Dogmatic'). This 'line of reasoning' is channelled by 'identity-frames'; the windows through which identity is understood. An analysis of these relations resulted in four perspectives or 'frames' to make sense of identity: Rationality-Frame, Profoundness-Frame, Compliance-Frame, and Morality-Frame. These are the basic parameters or principles that are used to make sense of identity.

In '5.2 Group Formation' we examined the use of pronouns (how the indexical meaning of 'perspectives') related to the semantic meaning of the pronoun (the noun) - in other words; through what perspectives nouns are enacted. We found that disputants particularly talk to outsiders ("you" are in the out-group) and use (negative) identity-frames for describing outsiders. This is in line with negative referent frames found in 5.3. Hence, within *each* frame, there are two stances: Creationist and Evolutionist. These indicate two social groups *and* two reference groups, because disputants particularly talk to outsiders and use (negative) identity-frames. An analysis of the correlation between and within identity-frames[22] indicated that these groups also reflect identity-groups.

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[22] Since the results suggest two identity-groups, we tested this proposition deductively through a sample of key-representatives. From each social group we selected five productive authors (more than 1000 messages on CE-Groups) that were already used for the text-analysis. These key-representatives were followed through all the threads used for the text-analysis and through some threads that were not yet analysed within different CE-Groups. Although there is great variance, we found that all key-representatives use all identity-frames either in favour of creationists or evolutionists, which supported the proposition.

However, evolutionists and creationists make more use of the Rationality-Frame and the Profoundness-Frame respectively. Both creationists and evolutionists found the out-group 'stupid' (in a more general term), but creationist put emphasis on profoundness, while evolutionist put emphasize on rationality. Within the Compliance-frame, individuals of the out-group are seen as 'sub-missive' or 'con-forming' to a group, and are thus literally defined in terms of parts of a homogenous group.

The identity-frames and identity-groups are summarized in figure 5.3a and 5.3b respectively.

| Identity-Frames | |
|---|---|
| **1. Rationality** | Mostly Evolutionists use the rationality-frame, saying that the out-group is Irrational, and - through social comparison - therewith claim to be Rational themselves. Intelligence is also used as a reference frame. **"They are Dumb"** <br> Creationists also use this frame, saying that the out-group is unwise (more related to the profoundness-frame) |
| **2. Profoundness** | Mostly Creationists use the profoundness-frame, saying that the out-group is Superficial, and - through social comparison - therewith claim to be Profound themselves. Sensibleness is also used as a reference frame. **"They are Numb"** <br> Evolutionists also use this frame, saying that the out-group is naïve (more related to the rationality-frame) |
| **3. Compliance** | Evolutionists use the compliance-frame to say that the out-group are Devotees and therewith claim to be Independent themselves. Together with the Rationality-frame, this results in the label **"Blind faith"**. <br> Creationist use the compliance-frame to say that the out-group is Narrow-Minded and therewith claim to be Open-Minded themselves. Together with the Profoundness-frame this results in the label **"Numb Materialist".** <br> Within this frame, individuals of the out-group are seen as homogenous and literally defined in terms of parts of a group. |
| **4. Morality** | Creationists use the morality-frame to say that the out-group is Immoral and therewith claim to be Righteous themselves. Together with the Profoundness-frame, this results in a **"Dissipated"** out-group. <br> Evolutionists use the morality-frame to say that the out-group is Biased and therewith claim to be Unbiased themselves. Together with the Rationality-frame, and/or Compliance-frame, this results in a **"Dogmatic"** out-group. |

Figure 5.4a Identity-Frames

Identity-frames are described in third-person plural because the analysis of 5.2 indicated that disputants particularly talk to outsiders ("you" are in the out-group) and use (negative) references for describing outsiders. With identifying others, disputants identify themselves by contrast (see 'Conceptual Framework'). The identity-frames thus confirm positive distinctiveness and the out-group homogeneity effect.

| | I am | They are |
|---|---|---|
| **Creationists** | - Sensible, Profound<br>- Open-minded<br>- Righteous | - Superficial (numb)<br>- Narrow-minded (numb materialist)<br>- Immoral (dissipated)<br>Superficial + narrow-minded = "numb materialist"<br>Superficial + immoral = "dissipated" |
| **Evolutionists** | - Rational, Intelligent<br>- Independent<br>- Unbiased | - Irrational (dumb),<br>- Devotees (blind faith)<br>- Biased (dogmatic)<br>Irrational + devotion = "blind faith"<br>Irrational + biased = "dogmatic" |

Figure 5.4b Identity-Groups

We use the term 'identity-*group*' rather than 'identity-*category*' because disputants that share the same identity-frames (perspectives on identity) also *have* a similar identity (have similar perspectives on themselves), and because these groups correspond with the social groups. This is not the case for the 'ideological-*categories'.*

### *Conclusion*

Based on the analysis of group formation and referent frames we deduced four identity-frames: Rationality-Frame, Profoundness-Frame, Compliance-Frame, and Morality-Frame. Within *each* frame, there are two stances: Creationist and Evolutionist. These indicate two social groups, two reference groups, and two identity-groups because disputants particularly talk to outsiders and use (negative) identity-frames. Creationists frame the out-group as numb, while evolutionists frame the out-group as dumb.

Identity-frames are described in third-person plural because the analysis of 5.2 indicated that disputants particularly talk to outsiders ("you" are in the out-group) and use (negative) references for describing outsiders. With identifying others, disputants identify themselves by contrast. The identity-frames thus confirm positive distinctiveness and the out-group homogeneity effect.

## 5.5 Conclusion

Disputants group an other based on minimal cues for social categories before talking with the other. This means that group formation occurs prior to interpersonal communication based on social categorization. There is thus no interpersonal communication without group-bias.

By following 'relational pronouns' within a thread we found that it almost always refers to just two groups of disputants in the discussion. By following disputants within a thread we found that they always belong the same group of disputants. Moreover, by following two productive authors (disputants) over several threads we found that their relation was always similar (either in the same group or within two different groups). Hence, group formation always divides disputants in just two social groups. The social groups indicate groups of disputants on the CE-Groups as a whole, that consistently relate to each other in a particular way (through particular relational pronouns and particularly respond to the same disputants: outsiders). In conclusion, interpersonal communication explicates two social groups (groups that consistently relate to each other in a particular way), and intensifies social divergence.

We identified four identity-frames: Rationality-Frame, Profoundness-Frame, Compliance-Frame, and Morality-Frame. An analysis of the correlation between and within identity-frames revealed two identity-groups: Creationists and Evolutionists. Creationists frame the out-group as numb (using the profoundness-frame), while evolutionists frame the out-group as dumb (using the rationality-frame). Both use the compliance frame to accuse the other for close-mindedness resulting in "numb materialist" and "blind faith". Identity-frames are described in third-person plural reflecting that disputants particularly talk to outsiders ("you" are in the out-group) and use (negative) references for describing outsiders. The identity-frames thus confirm positive distinctiveness and the out-group homogeneity effect.

In this chapter we have seen that issue-framing corresponds to identity-framing. The previous chapter showed that the issue is generally framed as a two-sided conflict over 'One Objective Truth' but that - based on the correlation of issue-frames- there are actually four ideological-categories (or simply 'ideologies'): Objective Evolutionism, Interpretative Evolutionism, Interpretative Creationism and Correct Creationism. The creationism-evolutionism variable was based on a difference within issue-frames and thus explicit. The positivism-interpretivism variable was based on a difference between issue-frames and thus implicit. The four ideologies are not identified by disputants. Rather, disputants identify just two identities: creationists and evolutionists. There are two identity-groups and the issue is framed according to these two groups. Of the four ideological-categories, *all* disputants *only* identify with either "Creationism, Mind, Supernatural, Religion, Faith, Rationalism, and Value" or with "Evolutionism, Matter, Natural, Science, Reason, Empiricism, Fact". There is common ground among the 'interpretavists' (i.e. 'moderates') in the ideological dimension, but the ideas they have in common are not identified with.

Both issue-framing and identity-framing are contingent on the two identity-groups: creationists vs. evolutionists. The results suggest that social identity influences both issue- and identity-framing. In the next chapter we will further explore the role of social identity. In particular, we will point out whether the online creation-evolution controversy is an identity-conflict; a conflict in which framing is determined by identity.

# 6. Social Context

## 6.1 Introduction

The issue-framing analysis shows that the discussion is framed as a two-sided conflict over 'One Objective Truth', but that there are four ideological-categories based on a correlation of issue-frames. The identity-framing analysis shows that only two identity-groups are identified by disputants, and that these groups use distinct identity-frames to make sense of identity. This suggests the influence of social identity.

In this chapter we will further explore the role of social identity. In particular, we will point out whether the online creation-evolution controversy is an identity-conflict. We hold that an identity-conflict, is a conflict in which framing is determined by identity. Methodologically, this means that *if* the use of issue-frames and identity-frames *corresponds* to two conflicting social-groups *and* is *dependent* on intra-group and inter-group discussions of these groups, *than* the conflict is identity-based. Since we already know two identity-groups and their respective issue- and identity-frames, we conduct a deductive method and test if creationists and evolutionists use different issue- and identity-frames in intra-group and inter-group discussions, through an in-depth analysis of productive authors of the respective groups.

## 6.2 Method

Since the role of identity was already pointed out by issue-framing analysis and identity-framing analysis, this situational-framing analysis will test the proposition that "framing (dependent variable) change according the social context (independent variable)". In this proposition the change of social context indicates the change of social identity. What we consider as a social context depends on how we define social identity. The identity-framing analysis shows that disputants who share the same identity-frames (perspectives on identity) also *have* a similar identity (have similar perspectives on them-selves), and that these 'identity-groups' correspond with the 'social group'; disputants that consistently relate to each other in a particular way. Hence, there are two identities *based on* the use of identity-frames that *represent* social groups. The '*social* identity' is that part of identity that changes according the social context and leads to a whole different psychological makeup that becomes apparent in the behavior of the person. In this research, social identity is not just measured by a change in identity-frames, but by a change of framing in general. Taken together, we analyze the framing of two identity-groups in an inter-group and intra-group context.

Since the role of social identity is already illustrated by the issue- and identity-framing analysis we will test the proposition that "issue-frames and identity-frames of creationist and evolutionist *depend* on in-group and out-group discussions and *correspond* to the two identity-groups". Rather than redoing an issue-framing analysis and identity-framing analysis, we focused on identifying issue-frames and identity-frames that were established in the previous chapters. This allows for comparison with the results of chapter 4 and 5. We did not try to find the specific seven issue-frames and four identity-frames, but rather looked at two more general issue-frames and identity-frames[23].

The issue-framing analysis pointed out that there is an explicit difference in the attribution of meaning; 'natural vs. spiritual' and an implicit difference between positivists and interpretativists. We thus focus on whether disputants frame the issue as natural or spiritual and whether they focus on the objective domain or also allow for subjective realities.

The identity-framing analysis in chapter 5 distinguished a range of referent- and identity-frames, but in this analysis we simply examine the group formation (explained in 5.2). This means that we do not focus on

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[23] Searching for such frames is too specific for this deductive method and for the relatively small sample of key-representatives

what disputants call each other, but on how disputants relate to each other. We particularly look at feedback and communication mode as indicators of interpersonal relations.

We conduct and an in-depth analysis of the framing of productive authors. From the key-representatives of the identity-groups[24], we took those users who were also used for the issue-framing analysis (key-representatives of ideological-categories) and selected the eight most productive authors for each identity-group. This resulted in the following sample:

| | |
|---|---|
| Stoney@the.net (Objective Evolutionist) | thea.nob4@gmail.com (Interpretative Creationist) |
| calee@optonline.net (Objective Evolutionist) | john.19071969@gmail.com (Interpretative Creationist) |
| ed1ward2@verizon.net (Objective Evolutionist) | awosty@gmail.com (Interpretative Creationist) |
| lunch@nofreelunch.net (Objective Evolutionist) | hoydort82@the.net (Interpretative Creationist) |
| ju.ding@btopenworld.com (Interpretative Evolutionist) | Duckgumbo32@cox.net (Correct Creationist) |
| catswhiskers09@gmail.com (Interpretative Evolutionist) | Loirbay_20@gmail.com (Correct Creationist) |
| musquodster@gmail.com (Interpretative Evolutionist) | m.h.gardner0@gmail,com (Correct Creationist) |
| b.schater@ed.ac.uk (Interpretive Evolutionist) | ghost43nm@gmail.com (Correct Creationist) |

Figure 6.2 Key-representative of identity-groups

We did not generated a particular sample of threads for 'creationist intra-group discussions', 'evolutionist intra-group discussions', and 'intergroup discussions'. This was impossible and/or invalid for many reasons, but most importantly: one thread can start as an intra-group discussion but end as an inter-group discussion when outsiders (e.g. 'flamers') join the thread and the discussion as a whole changes in character. Rather than excluding these threads from our sample we analyzed these threads to see whether the framing of a key-representative changes after the post of an outsider. One thread can thus be analyzed as an intragroup discussion *and* inter-group discussion: the intragroup discussion includes the messages prior to the message of an outsider. The identification of intra- or inter-group context (in which a key-representative posted a message) was done interpretively. We identified each disputant in the text simply as a creationist or evolutionists. This was often clear in the message, in the alias, on the profile of the author, or in other messages of the author. When we found discussions among evolutionists or among creationists this logically counted for intra-group discussions, regardless of the communication-mode or any other characteristics of the discussion.

A range of search methods were employed to navigate through CE-groups. The main method was searching within the CE-Groups by author (key-representative) and then randomly go through all the results to analyze the message of the author in light of the social context (thread). For creationist intra-group discussions we predominantly searched within 'alt.talk.creationism' and 'alt.religion.christian'. For evolutionist intra-group discussions we predominantly searched within on 'Alt.Atheism'. Intergroup discussions were particularly apparent on 'talk.origins', 'Atheism vs Christianity', and 'Evolution vs Creation'. Flamers were more active in -presumably- intra-group Groups: 'Alt.Atheism', 'alt.talk.creationism' and 'alt.religion.christian'. To find creationist intra-group discussions we searched for discussions that hosted two or more of the 'creationist key-representatives' and none of the 'evolutionist key-representatives'. A similar search method was conducted for finding evolutionist intra-group discussions. These search results produced more threads with clear intra-group discussions (which were harder to find).

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[24] These are authors with more than 1000 message on CE-Groups that were identified as representative for the identity-groups (use a particular set of identity-frames)

## 6.3 Results

*Creationists*
The situational-framing analysis of creationists showed that in intra-group contexts, creationists simply presume that every disputant holds that reality is spiritual. For example, when the topic of discussion is 'The Origin', they all frame the origin in spiritual, sacred terms. There is even room for discussing 'The Big Bang' when it is considered to be 'God's will'. Whether something is 'spiritual' or 'supernatural' is not discussed (even though the issue-framing analysis points out that this is the main ideological conflict between Interpretive Creationists and Correct Creationists respectively). It seems that as long as something is framed in spiritual terms it is accepted and disputants continue to relate to each other as in-group members. This was particularly apparent within discussions on the origin. Whereas the key-representatives directly labelled evolutionist stances in inter-group discussions as untrue, similar stances could exist harmoniously in intragroup discussions when framed more spiritually. On intragroup discussions, disputants tend to enact and accommodate subjective perspectives, allowing multiple realities. Particularly on the topic of Religion, disputants share experiences and frame the debate in terms of different views. There is less group formation on intra-group discussions in general, indicated by a lower use of reference categories in general, more feedback and the interpersonal mode of communication. Although the method of this situational-framing analysis was not designed for differentiating particular identity-frames, our interpretive analysis showed that creationists use a different identity-frames for intragroup and intergroup discussions; the morality-frame and profoundness-frame respectively. In intragroup discussions the identity-frame did not become apparent through reference categories, but through how disputants valued each other interpersonally: 'are you good?'. This fits our earlier finding that 'Creationists' (ideological category) prefer value-based argumentation and moral perspectives, over fact-based argumentation and objective perspectives, and why we called positivistic creationists: 'Correct Creationists'. This is contrasted with the intergroup context in which the discussion is framed as the Sacred (subtle) vs. superficial (numb), where someone is identified through a reference category, and based on that is either wrong or right.

| *Intragroup context* | *Intergroup context* |
|---|---|
| Presupposition: 'Reality is Spiritual' (not discussed) | Creationism vs. Evolutionism framed as Sacred (subtle) vs. Superficial (numb) |
| Not much identity-framing, but use 'morality-frame' | Identity-framing through profoundness-frame |
| Issue-frames on subjective reality<br>I think this, you think that | Issue-frames on objective reality<br>I am Right, You're Wrong |
| More feedback and interpersonal communication | Little feedback and group formation through reference groups |

Figure 6.3a Discussions of Creationists (identity-group) in intragroup and intergroup context

*Evolutionists*:
The situational-framing analysis of evolutionists showed that in intra-group contexts, evolutionist simply presume that every disputant holds that reality is natural or material. They thus talk about topics in a 'scientific way' describing any issue, even the most astounding phenomena, as 'natural'. The Big Bang is first and foremost a natural phenomenon, and it is discussed scientifically. Whether reality is 'material', 'natural' or 'spiritual' is not discussed, even though the issue-framing analysis points out that this is the main ideological conflict between Objective Evolutionists and Interpretive Evolutionists respectively. It seems that as long as something is framed in natural or material terms it is accepted and disputants continue to relate to each other as in-group members. Disputants tend to enact and accommodate subjective perspectives, allowing multiple realities. There is particularly an accommodation of multiple perspectives when the origin is discussed in an intra-group setting. However, compared to Creationists, they tend to maintain more objective perspectives. We did not find a difference in the use of identity-frames in intra-group and inter-group discussions (similar to the morality-frame and profoundness-frame in for creationist in in intra-group and inter-group discussions), but found a decrease if identity-framing on the whole. In intra-group discussions the use of reference categories is low and the level of feedback high, in comparison to intergroup discussions. In inter-group discussions, creationists are simply identified through a reference category, and based on that, not just 'wrong', but 'stupid'. Hence, in the intergroup context the discussion is framed as Rational (smart) vs. Irrational (dumb). Particular on the topic of The Origin this difference became apparent. In inter-group discussions a creationist-stance is directly labelled as such and found 'stupid' by the key-representatives. In intragroup-discussions views that are very close to creationism are not responded to as such when framed 'natural' or from explained from a scientific point of view.

| *Intragroup Context* | *Intergroup Context* |
|---|---|
| Presupposition: 'Reality is Natural' (not discussed) | Creationism vs. Evolutionism framed as Rational (smart) vs. Irrational (dumb) largely based on identity |
| Not much identity-framing | |
| Issue-frames on subjective reality I think this, you think that | Issue-frames on objective reality I am Right, You're Wrong |
| More feedback and interpersonal communication | Little feedback and group formation through reference groups |

Figure 6.3b Discussions of Evolutionists (indentity-group) in intragroup and intergroup context

*Intra-group vs Inter-group*
Taken together, discussions in an inter-group context and intra-group context differ in a range of ways. Most importantly, identity-framing, is less apparent in an intra-group context in general. By this we mean that there is higher feedback, and less group formation based on the use of social categories (the communication mode is interpersonal rather than intergroup). Within intra-group discussion the nature of reality is not discussed. For creationists it is spiritual, for evolutionists it is natural.
This deductive situational-framing analysis brings about one inconsistency compared with the results of the issue-framing analysis. The issue-framing analysis found that the philosophy-frame is only used by Interpretativists. This analysis shows that the philosophy-frame is also used in intra-group contexts, which is -assumingly- between Positivists and Interpretivists, or at least among all Creationist *or* Evolutionists. This conflict of findings is likely to be the result of two inaccuracies: First, the origin is the most popular and widely discussed topic that includes a range of discussions and a range of perspectives, which we conceptualized in just two issue-frames; the fact-frame and philosophy-frame (which does not cover the full variety). Second, the ideological-categories are based on a general correlation between and within issue-frames that resulted into two main variables which cannot be interpreted as distinct categories in which all disputants fit. The situational framing analysis points out that the philosophical debate on the

origin is mostly discussed between creationist and evolutionists, but also integrally within evolutionist and creationists intragroup discussions, such as on "alt.talk.creationism".

| Inter-group context | Intra-group context |
|---|---|
| Particularly identity-framing: Identity is at issue | Not much identity-framing: Issue is at issue |
| Prime discussion:<br>Reality is either natural or spiritual.<br>'natural-frame' vs. 'spiritual-frame' | Presupposition:<br>Reality is Spiritual (creationist)<br>Reality is Natural (evolutionist)<br>All within the 'natural-frame' or 'spiritual-frame' |
| Objective Truth is at issue (I am Right, You're Wrong) | Subjective realities are at issue (I think this, you think that) |
| Issue-frames: philosophy-frame, fact-frame, really-real frame, societal-frame | Issue-frames: philosophy-frame, practice-frame, interpretive-frame. |
| Low feedback, group formation based on the use of social categories | High feedback, interpersonal communication mode |

Figure 6.3c discussions in intragroup and intergroup context, based on two identity-groups: creationists and evolutionists

## 6.4 Conclusion

Creationist intragroup discussions frame the issue as spiritual, and Evolutionist intragroup discussions frame the issue as natural. Within intragroup discussions, disputants enact more subjective perspectives, while in intergroup discussions enact more objective perspectives. Moreover, intragroup discussions display more feedback and an interpersonal communication mode. This is in line with the findings of the issue-framing and identity-framing analysis.
Hence, the use of issue-frames and identity-frames corresponds to two conflicting social-groups and is dependent on intra-group and inter-group discussions of these groups. This confirms that the online creation-evolution controversy is an identity-conflict, based on 'creationists' and 'evolutionists'.

## *Results*

This research is based on grounded theory and generated results through a continuous cycle of inductive and deductive methods. The methods and results of each phase are thus presented together, in each chapter. In this part we summarize the results of the issue-framing analysis, the identity-framing analysis and situational framing analysis. In the conclusion, a convergence of these results will answer the research question by addressing the four research objectives of this research.

**Issue-framing analysis:**

- ❖ There are seven issue-frames (perspectives that are used to make sense of the issue): fact-frame, philosophy-frame, personal-frame, practice-frame, really-real frame, interpretive-frame and societal-frame
- ❖ Disputants meet each other within issue-frames (they have a similar perspective) and then disagree within this reality (worldspace)
- ❖ Differences within issue-frames are explicit and mostly resemble the conflict-thesis and differences between issue-frames are implicit
- ❖ In general, the issue is framed in terms of a conflict about objective truth, rather than subjective realities.
- ❖ All issue-frames comprise dichotomies and are discussed separately, so all issues are framed as two-sided conflict rather than allowing multiple multidimensional positions.

- ❖ There are four ideological-categories based on a correlation of issue-frames (correlations within and between issue-frames): Objective Evolutionists, Interpretive Evolutionists, Interpretive Creationists, Correct Creationists.
- ❖ There is only conflict between 'Creationists' and 'Evolutionists' (intergroup discussions)
- ❖ There is only dialogue among 'Creationists', or among 'Evolutionists' (intragroup discussions)
- ❖ There is unspoken common ground among 'Interpretavists' and 'Positivists'.

- ❖ The conflict is between "Creationism, Mind, Supernatural, Religion, Faith, Rationalism, and Value" versus "Evolutionism, Matter, Natural, Science, Reason, Empiricism, Fact".
- ❖ There is an explicit difference in the attribution of meaning ('natural' vs. 'spiritual') and an implicit difference in metaphysical world-view (Positivism vs. Interpretavism)

**Identity-framing analysis:**

- ❖ Of the four ideological-categories, only two groups are identified by disputants: creationists and evolutionists
- ❖ Disputants group each other based on minimal cues into referential categories before there is interpersonal communication (indicating group-bias)
- ❖ Referent-frames ('social categories') are mostly used for out-groups, indicating out-group homogeneity bias
- ❖ Identity-groups use distinct identity-frames, indicating positive distinctiveness.
- ❖ Creationists identify with the Profoundness-Frame and call the out-group "numb"
- ❖ Evolutionists identify with the Rationality-Frame and call the out-group "dumb".
- ❖ Both use the compliance frame to accuse the other for close-mindedness resulting in "numb materialist" and "blind faith"

**Situational Issue-framing analysis:**

- ❖ The two identity-groups use different frames within intergroup and intragroup discussions
- ❖ Identity-framing is particularly salient in intergroup settings

- ❖ Intra-group discussions of Creationists are about Religion and The Origin, all framed in spiritual/supernatural terms.
- ❖ Intra-group discussions of Evolutionists are about Science and The Origin, all framed in natural/material terms.
- ❖ In general, the intragroup discussions of both creationists and evolutionists display an less social categorization and more feedback, in comparison to the intergroup discussion.

- ❖ Creationist intragroup discussions frame the issue as spiritual, and Evolutionist intragroup discussions frame the issue as natural.
- ❖ Within intragroup discussions, disputants enact more subjective perspectives, while in intergroup discussions enact more objective perspectives.
- ❖ Intragroup discussions display more feedback and an interpersonal communication mode.
- ❖ Hence, the use of issue-frames and identity-frames corresponds to two conflicting social-groups and is dependent on intra-group and inter-group discussions of these groups.

## *Conclusion*

First, we draw the general conclusion of this research in the textbox below. Second, each research objective is addressed independently.

An integral framing analysis of the online creation-evolution controversy shows that both the issue and identity are framed in line with the notion of a conflict between two social groups; creationists vs. evolutionists. Although the discussion hosts four ideological-categories, the issue is framed as a conflict over one objective truth between two groups. Disputants group each other based on minimal cues into social categories before there is interpersonal communication, indicating group-bias. The two groups use identity-frames for putting outsiders into social categories, indicating homogeneity-bias. The two groups use distinct identity-frames to make sense of identity, indicating positive distinctiveness. A situational framing analysis points out that the two identity-groups use different frames within intergroup and intragroup discussions, confirming that the online creation-evolution controversy is an identity-conflict.

### *Ideological Dimension:*

The online creation-evolution discussion is framed as a two-sided conflict between two ideologies, creationism and evolutionism, over 'One Objective Truth'. Underneath this dominant frame, the discussion hosts multiple perspectives on multiple issues that make up four coherent ideological-categories: Objective Evolutionists, Interpretive Evolutionists, Interpretive Creationists, Correct Creationists. There is an explicit ideological difference in the attribution of meaning (natural vs spiritual) between 'Evolutionists' and 'Creationists'. The commonality of metaphysical world-views among Interpretavists (Interpretive Evolutionists, Interpretive Creationists) remains on the background. Hence, although creationists tend to frame issues as spiritual and evolutionists tend to frame issues as natural, there are two moderate groups (Interpretive Evolutionists and Interpretive Creationists), who seem to have considerable overlap in metaphysical thought (moderate pluralists/pragmatists, allowing for multiple realities). These categories do not meet on online discussions because each issue is discussed separately and structured as a dichotomy.

### *Social Dimension:*

Identity-frames as well as issue-frames correspond to two identity-groups. Disputants group an other based on minimal cues for social categories before talking with the other. This means that group formation occurs prior to interpersonal communication based on social categorization. There is thus no interpersonal communication without group-bias. Disputants use referent-frames ('social categories') mostly for out-groups, indicating out-group homogeneity bias. Moreover, the identity-groups use distinct identity-frames to make sense of identity, indicating positive distinctiveness.

### *The relation between Ideas and Identity:*

Both issue-framing and identity-framing are contingent on the two identity-groups: creationists vs. evolutionists. Creationists identify with 'profoundness' and call the out-group "numb", while evolutionists identify with 'rationality' and call the out-group "dumb". Both use the compliance frame to accuse each other for close-mindedness resulting in "numb materialist" and "blind faith". Individuals of the out-group are seen as homogenous and literally defined in terms of parts of a group.
Of the four ideological-categories, *all* disputants *only* identify with either "Creationism, Mind, Supernatural, Religion, Faith, Rationalism, and Value" or with "Evolutionism, Matter, Natural, Science, Reason, Empiricism, Fact". The main skirmish of the discussion (ideas identified with) is between Creationism and

Evolutionism, and is incommensurable to the 'positivists', i.e. 'extremists'. There is common ground among the 'interpretavists' (i.e. 'moderates'), but the ideas they have in common are not identified with.

### *The role of Social Identity:*

The two identity-groups, creationists and evolutionists, use different frames within intergroup and intragroup discussions, indicating the role of social identity. In comparison to the intergroup discussion, the intragroup discussions of both creationists and evolutionists show more interpersonal communication (less social categorization, more feedback, and include multiple subjective realties). The online creation-evolution controversy is an identity-conflict because the use of issue-frames and identity-frames corresponds to two conflicting social-groups and is dependent on in-group and out-group discussions of these groups.

# *Discussion*

**Discussion**

This integral framing-analysis of the online creation-evolution controversy is based on a new conceptualization of 'framing' (1) and a new methodology for understanding intractable- and/or identity-conflicts (2).

First, we indicated that framing is a concept that potentially integrates the various aspects of communication and language, but lacks a coherent theoretical-methodological framework. Entman calls framing "a scattered conceptualization" and "a fractured paradigm" that "is often defined casually, with much left to an assumed tacit understanding of the reader" (Entman, R. 1993). The divergent theoretical approaches to framing have resulted in conceptual confusion in conflict research (Dewulf et al., 2009). To overcome paradigmatic discords and enable framing to be used in interdisciplinary studies, such as in conflict research, we defined framing trans-metaphysically as perspective-taking. This conceptualization of 'framing' is used because it 1) allows language to be studied as a holistic phenomenon (instead of interpreting 'frames' already as active/passive, interior/exterior, etc.), and 2) allows for a conceptual distinction that is significant to understand this case's dynamics: ideology and identity. The disadvantage of this trans-metaphysical conception is that there is no concrete interpretative framework for analysing the results. Perspectives are in themselves meaningless. Only if we correlate frames, such as issue-frames and identity-frames, we can draw conclusions based on how perspective relate, such as 'ideas that are identified with'. Results of an 'integral framing analysis' will thus remain general and abstract. Our conceptualization of framing is not suitable for frame-studies within particular paradigms, such as for studies that compare gain and loss frames in psychological research. It is of interest for interdisciplinary fields, mostly in sociology and communication studies.

In this research, we used this concept for a new methodology for understanding intractable- and/or identity-conflicts, combining an issue-framing analysis, identity-framing analysis and situational framing analysis. Whereas framing-studies often apply just one of these methods, this particular configuration is a promising methodology for understanding conflicts. As indicated by the results of this study, the methodology can indicate ideas that are identified with as the main obstacles in conflict resolution and reveal common ideas which would otherwise remain on the background. These can serve as potential bridges for conflict resolution. Identity is of a great influence in many conflicts (Rothman, J. 1997; Rowman and Littlefield, 2000; Norhtrup, T. 1998). There is a special class of conflicts, referred to as 'identity conflicts', but this concept is scientifically indeterminate. Rothman (1997) summarized that identity-conflicts "are based in people's psychology, culture, basic values, shared history, and beliefs. These issues tend to be more abstract, ambiguous and intangible." He holds that identity-conflicts are "a unique class of conflicts that require special handling" and that "the first step in effective resolution is correctly identifying a conflict as an identity conflict" (1997). In this research we stated that an identity-conflict, is a conflict in which framing is determined by identity. Methodologically, this means that *if* the use of issue-frames and identity-frames *corresponds* to two conflicting social-groups *and* is *dependent* on intra-group and inter-group discussions of these groups, *than* the conflict is identity-based. An issue-framing analysis and identity-framing analysis, combined with a situational framing-analysis can determine a conflict as an identity-conflict. This methodology is not case-specific. It can be used for other conflict-studies. We invite readers to critically review this methodology in light of its use for other conflict-studies.

The 'integral methodological framework' of this research was aimed at developing a theoretical and methodological framework for the framing-analysis of the creation-evolution controversy. The integral methodological framework was presented apart from the actual-framing analysis because it contributes to a scientific understanding of the topic (creation-evolution controversy) and the theory (framing) in general. We set out how perspectives can be used to 1) understand the various epistemologies within the controversy, 2) the meaning of words (semantics), 3) a linguistic expression (syntax), and 4) the relation of the linguistic expressions to the wider context of communication and mutual understanding. The first two aspects are case-specific: the methodology can be used for other studies, but the content is case-specific.

The latter two aspects are not case-specific and can potentially be used for 'integral framing studies' as a potential new field of framing research.

Our research design separates the integral methodological framework from the framing-analysis. Although this allows the results to be read independently, it remains unclear how exactly the framework relates to the method and results. This is the main drawback of this research. Although the results of the framing-analysis are extensive, we did not use the integral methodological framework for an analysis of the results. This was done to keep the results of the framing-analysis clear and definite. The conclusion merely addresses the four research objectives, but the results provide information for more deductions. It would be interesting to see the results in light of the integral methodological framework and draw more elaborate conclusions. Moreover, the results can instigate particular recommendations for conflict resolution (this was considered outside of this research boundary).

To study the online creation-evolution controversy we selected six Google Groups and used this as the database for our research. This database included threads on a range of topics, such as politics, education and science, which are commonly not considered as creation-evolution discussions. The results of this study will thus show more diversity in issue- and identity-frames. Other than common discussions where all speech is shared between all disputants, the online creation-evolution discussion on Google Groups is scattered in terms of disputants, topics and talk. Although we analyse and define it as a single discussion, the database is actually a field that covers multiple sub-discussions. This inhibits a generalization of the results to the creation-evolution controversy at large. The extensive database and intricate methods of the framing-analysis, makes it hard to verify the results.

The framing-analysis is qualitative and combines search methods and text-analysis. 'Search methods' stand for taking different samples of the database, whether it is through the search method of entering keywords and/or key-representatives. 'Text-analysis' stands for the empirical analysis of texts, partly through tagging, to infer conceptualizations. This shows that before a text-analysis was done, we first needed to select a text from Google Groups. The method generally moved from the conceptual level to the empirical level. Such a process is susceptible for producing results that are in line with the researcher's assumptions. Moreover, this is contrary to our 'Methodology' in which we stated that we attempt to unearth a theory from the writings on online discussion groups, rather than from a predisposed hypothesis.
However, in practice the framing-analysis was a continuous cycle of induction and deduction; generating conceptualizations (such as hypothetical frames) from observation and then using these conceptualizations, such as keywords that represent a frame, to guide which observations to make. We thus started from an explorative text-analysis of the CE-Groups in general, and based on observations of the CE-Groups, employed particular search options. The increasing amount of conceptualizations or results throughout the framing-analysis led to more particular search methods. The principles for this type of research can be found in grounded theory which sees the research practice of data sampling, data analysis and theory development not as distinct and disjunct, but as different steps to be repeated until one can describe and explain the phenomenon that is to be researched (Glaser and Strauss, 1967).

In 'Framing-Analysis' we only specified a search method ('sample'), when we a single sampling was used to derive the results from. However, the results were generally deduced after various cycles of diverse search methods that could not be outlined in detail. This makes this research unverifiable. Yet, in each chapter, the procedures of the framing-analysis are elaborately described to indicate the logic of the method. We encountered a range of problems. First, using keywords for finding frames is problematic in general because the researcher can easily project his own assumptions on the texts (as indicated above). Even more problematic is that we coupled keywords and key representatives to particular categories or groups, and used these deductively in the situational framing analysis (categories and groups are already deduced from a general correlation of issue-frames and identity-frames respectively, so to use key-words or key-representatives positively and deductively for categories and groups inflict the fallacy of affirming the consequent). In general, we prevented this inaccuracy through verifying if our conceptualizations ('disputant A is representative for issue-frame B, or category B'), were still accurately reflecting the actual discussion. For example, we followed key-representatives of categories, to see if they fitted the

conceptualization of this category. This problem became apparent in the situational framing analysis when we found that intragroup discussions hosted the philosophy-frame (contrary to the finding of the issue-framing analysis, that the philosophy-frame hosts Interpretativsts). We explained that this conflict of findings is likely to be the result of two inaccuracies: First, the origin is the most popular and widely discussed topic that includes a range of discussions and a range of perspectives, which we conceptualized in just two issue-frames; the fact-frame and philosophy-frame (which does not cover the full variety). Second, the ideological-categories are based on a general correlation between and within issue-frames that resulted into two main variables which cannot be interpreted as distinct categories in which all disputants fit. Another inaccuracy of the method is that we mainly used productive authors as key-representatives. Productive authors are can differ in their framing behaviour from less productive authors. We did not find a general rule for this difference, and we did not accounted for this in a particular way. In the situational framing analysis we did not assume that a difference in  framing in diverse social context  could be directly attributed to the influence of identity. Disputants will obviously frame both the issue and identity depending on the social context because they are simply discussing different things with different people. We thus tested if the particular change in framing reflected the two social groups that we identified, and held that if the use of issue-frames and identity-frames *corresponds* to two conflicting social-groups *and* is *dependent* on intra-group and inter-group discussions of these groups, then this can be attributed to social identity.

The online creation-evolution discussion is obviously different from the creation-evolution controversy in general. This requires us to examine how computer-mediated-communication (CMC) is different from face-to-face communication (FTF). Based on established theories on FTF and CMC relations, we will explore how this case in particular is hypothetically affected by CMC. Most significantly, we found that CMC potentially fosters anonymity, but that this can both increase and decrease social polarization, depending on the case. The social identity model of deindividuation effects (or SIDE model) explains that anonymity in the group, that is coupled with CMC, either has the effect of amplifying a shared social identity that is already in place, or it can amplify the individual independence when no shared identity is available (Postmes, et al., 1998). Our research indicated that disputants group each other based on minimal cues into referential categories before there is interpersonal communication. Hence, the social identity is already in place and is likely to amplify the effect of this identity on the framing of a disputant. The effect of social identity that we found in this research, is likely to be less salient in FTF.

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# *Appendix*

## *Appendix 1: Search on Google Labs Ngram Viewer*

> ### *The Design of Neo-Creationism*
>
> A search on Google Labs Ngram Viewer shows how the use of the phrase "Scientific Creationism" went down in the late 1980's and how "Intelligent Design" arose around 1989 as an attempt to boast the movement by replacing or 're-framing' the concept in more scientific and less dogmatic terms (Google Labs Ngram Viewer, 2011). Ngram is a browser designed to examine the frequency of phrases in books over time.
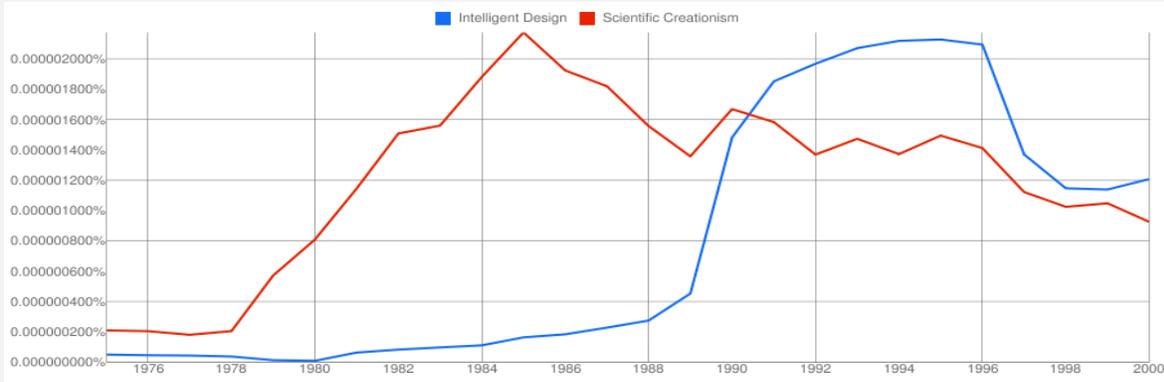>
> 
>
> Fig 4.1 derived from Google Labs Ngram Viewer, Tim Stevens 2011

# *Appendix 2:* Analysis of Arguments and ways of Reasoning

In paragraph 1.1 and 1.2 we found that categories, such as creationism, evolutionism, religion and science are inadequate to understand the epistemological differences of the creation-evolution discussion. Although the discussion is framed in terms of 'creationism vs. evolutionism' and 'religion vs. science', the discussion actually displays a range of arguments and reasoning. This appendix presents the results of our analysis of the *arguments (2.1)* and the underlying *reasoning (2.2)* on the CE-Groups. This ultimately led to an epistemological differentiation of foundational beliefs, which we describe in paragraph 1.3.

## 2.1 Arguments

To make sense of the smorgasbord of arguments on the CE-Groups, we first tried to cluster similar arguments and searched for principles to make generalizations. Although online arguments are formulated in informal terms and focus on various topics, we found that the recurring and lasting arguments on the CE-Groups resembled the traditional arguments for and against the existence of God described in literature (). Hence, the lasting arguments on the CE-Groups (the arguments that most threads end with) are on the metaphysics of reality.

In this part, we first explore the arguments for the existence of God and couple these with their main counter arguments. Arguments for the non-existence of God that have not been covered, will be summed up subsequently. This is not a full account, but a selection of argument that indicate various lines of thinking. In appendix 2.2 we will extract underlying models of reasoning from these arguments.

- The cosmological argument for the existence of God holds that there was a "first cause", "prime mover", or "uncaused cause" who is identified as God; the "unconditioned supreme being". It could be formulated as follows: 1) Whatever begins to exist has a cause, 2) The Universe began to exist, 3) Therefore, the Universe had a cause. The main objection to the argument is that it leaves open the question of why the First Cause is unique in that it does not require a cause - What caused the first cause?

- The teleological argument attributes the existence of order and direction in nature to some kind of purpose. The word "teleological" is derived from the Greek word telos, meaning "end" or "purpose". More generally, teleology is the supposition that there is purpose or directive principle in the works and processes of nature. Although there is a tendency in the evolution of existence towards rising complexity and consciousness, the theory of evolution is non-teleological. The theory of evolution is sometimes described as emerging by mere chance. Chance is certainly a factor in evolution (genetic mutation), but there are also non-random evolutionary mechanisms, such as natural selection. And *selection* is the very opposite of *chance*. Natural selection is the process by which some variants survive and others do not. This indeed gives evolution a direction (and allows us to predict). However, this does not support, nor abolishes the teleological argument: we cannot say whether this direction has a purpose. Purpose is an anthropomorphic notion of direction.

- Ontological arguments are arguments from premises which are supposed to derive from some source other than observation of the world: from reason alone (a priori proof). In other words, ontological arguments are arguments from nothing but analytic, a priori and necessary premises to the conclusion that God exists. While there are several different versions of the argument, all purport to show that if we can conceive of the greatest possible being, then it must exist. Descartes version can be formally described as follows: 1) Whatever I clearly and distinctly perceive to be contained in the idea of something is true of that thing. 2) I clearly and distinctly perceive that necessary existence is contained in the idea of God. 3) Therefore, God exists. The main objection is that no being could ever be proven to exist through an a priori demonstration. Another counter argument is based on the same line of thought (a priori demonstration) as the ontological argument it opposes: whatever we conceive as existent, we can also conceive as non-existent, so the argument could just as well plea for the exact opposite. The possibility of God's existence or non-existence, which is necessary to both arguments,

must be proven before the argument can be accepted. The argument from degree, a version of the ontological argument posited by Thomas Aquinas, states that there must exist a being which possesses all properties to the maximum possible degree. A syllogistic of this stance was made by Robert J. Schihl and goes as follows: 1) Objects have properties to greater or lesser extents. 2) If an object has a property to a lesser extent, then there exists some other object that has the property to the maximum possible degree. 3) So there is an entity that has all properties to the maximum possible degree. 4) Hence God exists.

- There are arguments that refer to the non-physical quality observed in the universe and claim that this is of fundamental importance. In these arguments the non-physical dimension of the universe is not considered to be an epiphenomenon. An epiphenomenon is a secondary phenomenon that occurs alongside or in parallel to a primary phenomenon. In the philosophy of mind for example, epiphenomenonism is the view that mental phenomena are caused by physical phenomena, but cannot cause physical phenomena. In strong epiphenomenalism, epiphenomena that are mental phenomena can only be caused by physical phenomena, not by other mental phenomena. Arguments for theism as against materialism neglect certain phenomena as being epiphenomena, such as morality (argument from morality), beauty (argument from beauty), love (argument from love), or religious experience (argument from religious experience). All these arguments depend on the claim against epiphenomenonism. They hold that love or morality is not just a result of material interaction, but a primary phenomenon.

- There are seemingly similar arguments, that have a different nature. For example, the moral argument (rather than 'the argument from morality'), argues that the existence of objective morality depends on the existence of God. In its most general form, the moral argument is that: 1) Some aspect of Morality (e.g., its objective force) is observed. 2) Belief in God provides a better explanation of this feature than various alternatives. 3) Therefore, to the extent that (1) is accepted, belief in God is preferable to these alternatives. The transcendental argument is the argument that attempts to prove God's existence by arguing that logic, morals, and science ultimately presuppose a theistic worldview, and that God is the source of logic and morals. The argument proceeds as follows: 1) If there is no god, knowledge is not possible. 2) Knowledge is possible (or some other statement pertaining to logic or morality). 3) Therefore God exists.

- The argument from reason, combines the previous two categories of arguments, holding that: 1) For an assertion to be capable of truth or falsehood it must come from a rational source. 2) No merely physical material or combination of merely physical materials constitute a rational source. 3) Therefore, no assertion that is true or false can come from a merely physical source. 4) The assertions of human minds are capable of truth or falsehood. Conclusion: Therefore, human minds are not a merely physical source.

- The anthropic argument suggests that basic facts, such as humanity's existence, are best explained by the existence of God (for their irreducible complexity). The fine-tuned Universe is the idea that the conditions that allow life in the Universe can only occur when certain universal fundamental physical constants lie within a very narrow range, so that if any of several fundamental constants were only slightly different the universe would be unlikely to be conducive to the establishment and development of consciousness. The anthropic arguments says that this is all the case because conscious life, in some sense, needed to exist. The counter argument is that "even though life as we know it would not exist if any one of several of the constants of physics were just slightly different, we cannot prove that some other form of life is feasible with a different set of constants." Hence, anyone who insists that our form of life is the only one conceivable is making a claim based on no evidence and no theory. The anthropic argument is advocated by the Intelligent Design Movement (based on irreducible complexity).

- The 'will to believe doctrine' was an attempt to prove God by showing that the adoption of theism as a hypothesis "works" in a believer's life. This doctrine depended heavily on James' pragmatic theory of truth where beliefs are proven by how they work when adopted rather than by proofs before they are

believed. James' central argument in "The Will to Believe" (…) hinges on the idea that for certain beliefs, truth, or at least access to the evidence of their truth, depends crucially upon our first believing upon insufficient evidence. It is based on the hypothetico-deductive model: beliefs' evidence becomes available only after they are believed.

The main arguments for the non-existence of God that have not been covered as counter-arguments yet, are the following;

- The argument from nonbelief contests the existence of an omnipotent God who wants humans to believe in him by arguing that such a God would do a better job of gathering believers.

- The argument from parsimony (using Occam's razor) contends that since natural (non-supernatural) theories adequately explain the development of religion and belief in gods, the actual existence of such supernatural agents is superfluous and may be dismissed unless otherwise proven to be required to explain the phenomenon.

- The analogy of Russell's teapot argues that the burden of proof for the existence of God lies with the theist rather than the atheist.

- The conflicted religions argument notes that many religions give differing accounts as to what God is and what God wants; since all the contradictory accounts cannot be correct, many if not all religions must be incorrect.

- The "historical induction" argument concludes that since most theistic religions throughout history (e.g. ancient Egyptian religion, ancient Greek religion) and their gods ultimately come to be regarded as untrue or incorrect, all theistic religions, including contemporary ones, are therefore most likely untrue/incorrect by induction.

## 2.2 Reasoning

The critical reader must have noticed various ways of reasoning that underlie these arguments. Reason is a means by which thinking comes from one idea to a related idea. It is the way people propose and consider explanations concerning cause and effect, true and false, and what is good or bad. While statements in an argument are referred to as being either true or false, arguments are referred to as being valid or invalid. A sound argument is a valid argument with true premises; a valid argument may well have false premises but is logically coherent. To understand the reasoning that underlies arguments, we will differentiate fact and value claims, a priori and a posteriori knowledge, deductive and inductive reasoning, analytics and synthetic propositions and necessary and contingent propositions. This information is used to come to the foundational beliefs described in 1.3, but also return several times in the rest if this report (particularly in the 3.3.3. and chapter 4).

### Fact - Value
The fact-value distinction is a concept used to distinguish between arguments which can be claimed through reason alone, and those where rationality is limited to describing a collective opinion. In another formulation, it is the distinction between what is (can be discovered by science, philosophy or reason) and what ought to be (a judgment which can be agreed upon by consensus). The terms positive and normative represent another manner of expressing this, as do the terms descriptive and prescriptive, respectively.
The is-ought problem in meta-ethics as articulated by David Hume (1711–1776), is that we logically cannot make claims about what *ought* to be on the basis of statements about what *is.* There seems to be a significant difference between descriptive or positive statements (about what is) and prescriptive or normative statements (about what ought to be), and it is not obvious how we can get from making descriptive statements to prescriptive. Positive statements make the implicit claim to facts, whereas normative statements make a claim to values or to norms. Although a prescriptive argument is concerned with values - and we might agree or disagree with the conclusion -, the reasoning is either valid or invalid

(how one comes from the premises to the conclusion is logically coherent or not). The problem is that moral premises or moral conclusions are in themselves never true or false and that we cannot logically arrive at moral conclusions based on facts.

*A Priori – A Posteriori*
The terms a priori ("prior to") and a posteriori ("posterior to") are used in philosophy (epistemology) to distinguish two types of knowledge, justifications or arguments. A priori knowledge or justification is independent of ('or prior to') experience - it is conceptual knowledge. A posteriori knowledge or justification is dependent on (or 'posterior', 'comes after') experience or empirical evidence. The ontological argument (see appendix 2), whether pro or con creationism, is purely based on reason (rather than observation). Both attempt the method of 'a priori proof', which uses reason alone. The two other main arguments within the discussion on the origins, the cosmological and teleological, are also purely based on formal logic.

*Deductive – Inductive*
Deductive arguments assert that the truth of the conclusion is a logical consequence of the premises. It is based on deductive reasoning. One classic example of deductive reasoning is the following syllogisms: Premise 1) All humans are mortal. Premise 2) Socrates is a human. Conclusion 3): Socrates is mortal. The reasoning in this argument is valid, because there is no way in which the premises, 1 and 2, could be true and the conclusion, 3, be false. A deductive argument is sound if it is valid and its premises are true. Deductive arguments are valid or invalid, sound or unsound, but are never false nor true. This is because it is an 'a priori' form of justification (it is conceptual rather than empirical).
An inductive argument, asserts that the truth of the conclusion is supported by the premises, but does not necessarily entail the conclusion. It is based on inductive reasoning, a form of reasoning that makes generalizations based on individual instances. Induction is a form of inference producing propositions about unobserved objects or types, either specifically or generally, based on previous observation (a posteriori). It is used to ascribe properties or relations to objects or types based on previous observations or experiences, or to formulate general statements or laws based on limited observations of recurring phenomenal patterns. The premises of an inductive logical argument indicate some degree of support (inductive probability) for the conclusion but do not entail it; that is, they suggest truth but do not ensure it. Induction is employed, for example, in the following argument: Premise 1) Every life form we know of depends on liquid water to exist. Premise 2) All life depends on liquid water to exist. Inductive reasoning allows for the possibility that the conclusion is false, even where all of the premises are true. An inductive argument can be falsified. The most well-known example is of swans: swans were thought to be white, since all observed swans in Europe where white, but when black swans were found in Australia, the claim was falsified.
An example from the creation-evolution controversy is the 'historical induction argument,' which concludes that since most theistic religions throughout history (e.g. ancient Egyptian religion, ancient Greek religion) and their gods ultimately come to be regarded as untrue or incorrect, all theistic religions, including contemporary ones, are therefore most likely untrue/incorrect by induction. The main inductive argument from the religious side is that the proofs for the existence of God present a fairly large probability though not absolute certainty. A number of obscure points, they say, always remain; an act of faith is required to dismiss these difficulties.
Other arguments that are largely based on inductive reasoning are the abductive argument, the argument by analogy, transitional arguments and defeasible arguments.
*Abductive reasoning*, or 'argument to the best explanation', is a form of inductive reasoning, since the conclusion in an abductive argument does not follow with certainty from its premises and concerns something unobserved. What distinguishes abduction from the other forms of reasoning is an attempt to favour one conclusion above others, by attempting to falsify alternative explanations or by demonstrating the likelihood of the favoured conclusion, given a set of more or less disputable assumptions. For example, when a patient displays certain symptoms, there might be various possible causes, but one of these is preferred above others as being more probable. In the creation-evolution controversy the best illustration is the moral argument. It says that the existence of objective morality depends on the existence of God: 1) Some aspect of Morality (e.g., its objective force) is observed. 2) Belief in God provides a better explanation of this feature than various alternatives. 3) Therefore, to the extent that (1) is accepted, belief

in God is preferable to these alternatives. The keywords that signify abductive reasoning are 'better explanation of this feature than various alternatives' and 'belief in God is preferable to these alternatives'.

*An argument by analogy* may be thought of as an argument from the particular to particular. An argument by analogy may use a particular truth in a premise to argue towards a similar particular truth in the conclusion. For example, if 1) Plato was mortal, and 2) Socrates was like Plato in other respects, then asserting that 3) Socrates was mortal. This is an argument by analogy because the reasoning employed in it proceeds from a particular truth in a premise (Plato was mortal) to a similar particular truth in the conclusion, namely that Socrates was mortal. Analogical reasoning can be viewed as a form of inductive reasoning, since the truth of the premises does not guarantee the truth of the conclusion. However, the traditional view is that inductive reasoning is reasoning from the particular to the general, and thus analogical reasoning is distinct from inductive reasoning.

The analogy of Russell's teapot is such an argument. He wrote: "If I were to suggest that between the Earth and Mars there is a china teapot revolving about the sun in an elliptical orbit, nobody would be able to disprove my assertion provided I were careful to add that the teapot is too small to be revealed even by our most powerful telescopes", making an analogy between religion and his teapot-religion. His statement was that if he claimed that a teapot were orbiting the sun, it would be nonsense for him to expect others to believe him just because they could not prove him wrong. The analogy of Russell's teapot was created to illustrate the idea that the philosophic burden of proof lies upon a person making scientifically unfalsifiable claims rather than shifting the burden of proof to others, specifically in the case of religion. It argues that the burden of proof for the existence of God lies with the theist rather than the atheist.

*Transitional arguments* attempt to show that a particular explanation is better than another because it is able to make sense of a transition from old to new. That is, if explanation b can account for the problems that existed with explanation a, but not vice versa, then b is regarded to be the more reasonable explanation. A common example in the history of science is the transition from pre-Galilean to Galilean understandings of physical motion. Recently, new findings in quantum physics ('non-locality' for example) are said to explain the world (and the existence of God) better than previous models of reality. Also theories on consciousness, such as on near-death-experiences, are said to explain the world better than positivist theories, proposing a paradigm shift toward a more nonphysical, metaphysical focus.

*Defeasible arguments* have the property that additional information (such as new counter reasons) can have the effect that it no longer justifies its conclusion. This is widely applied to disprove evolution theory. If there is something not completely in line with evolution-theory, the whole theory is said to be false.

*Analytic - Synthetic*

Analytic propositions are true simply by virtue of their meaning, while synthetic propositions are not. A proposition is analytic if it does not give any more information than is already contained in the meanings of the terms involved. An analytic proposition is one that is apparent merely by virtue of understanding the meaning and relation of the words used ('All bachelors are unmarried'). By contrast, a statement is synthetic if it brings together different concepts and so provides significant information ('All bachelors are unhappy').

*Necessary - Contingent*

A truth is necessary if denying it would entail a contradiction. A truth is contingent, if it happens to be true, but could have been false. A necessary truth is one that could not be otherwise, it must be true in any circumstances and in all worlds (denying would be a logical contradiction). A contingent truth is true but might not have been if things in the world had been different, for example: 1) cats are mammals, 2) cats are reptiles, 3) cats have claws. It is a way of reasoning or an established relation between two true premises.

As pointed out in 1.2, much of the science-religion controversy has been influenced by the basic difference between reason (rationality) and experience (empiricism) as the foundation principle of knowledge. To understand what is at issue between rationalist and empiricist theories of knowledge, it is useful to look at three key distinctions just made (a priori vs. a posteriori, analytic vs. synthetic, and necessary vs. contingent). There seem to be an alignment between them; 1) an analytical statement, if true, is necessarily so and is known a priori, while a 2) synthetic proposition, if true, is contingently so and is known a posteriori. Rationalists seek to show that there are synthetic a priori statements, that

meaningful facts about the world can be discovered by rational, non-empirical means. Empiricists, on the other hand, aim to show that apparently a priori facts (such as those found in the study of mathematics) are in fact analytical.

The online creation-evolution controversy is not a conflict over the logic of reasoning between empiricists and rationalists. However, the creationism-evolutionism conflict does seem to correspond with the rationalism-empiricism conflict, not in terms of the logic of reasoning as outlined above, but in terms of their ideas about what knowledge is and how it is best acquired. On the whole, it seems that normative arguments, a posteriori knowledge, and synthetic and contingent arguments are more often counterattacked and eventually fade from the threads on the CE-Groups[25]. The discussion is thus mostly about facts, and whether facts are true or false, depends simply on different 'first principles'; on different ideas about what knowledge is and how it is best acquired. Hence, disputants do not so much differ in their way of reasoning, but rather in their basic ideas from which propositions, statements and stances derive.

Our analysis of the traditional arguments for and against the existence of God also indicate that most arguments are rooted in pure conceptual thinking. These arguments cannot said to be either true or false, only valid or invalid. Furthermore, most of these arguments, whether for or against the existence of God, are indeed valid; their logical reasoning is coherent. For example, the theological, ontological and cosmological argument all have a version for and a version against the existence of God, which are equally valid. The reasoning is the same, but the starting principle is different. Since opposing truth claims can be equally valid, there must be different 'first principles' or 'foundations' on which the arguments are build, which cannot be falsified (rationally/logically or empirically). And this seems to be the case not only for arguments for and against the existence of God, but for many arguments concerning various topics on the online creation-evolution discussion groups.

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[25] Discussions come 'to end' when the input diminishes and the thread dries up. Sometimes discussions come to end with a 'reached consensus', but this goes no further than 'agreeing to disagree'. This seems the very nature of the creation-evolution controversy: although it is heavily disputed over centuries, the fundamental questions cannot be agreed upon.

## *Appendix 3: Theory of Mutual Understanding and the Three impediments*

In 3.3 we outline the theory of mutual understanding in terms of integral theory, and summarize three impediment of mutual understanding. In this appendix we clarify the process of mutual understanding in greater theoretical detail, in which three 'impediments' or 'aspects' of mutual understanding come to light.

The prerequisite of communication, but also the goal of communication is mutual understanding. Interlocutors need to understand each other to some degree in order to be able to communicate (there needs to be some form of 'we', like a shared language), and through communication interlocutors come to an understanding (fuse horizons and create meaning in intersubjective space). These two propositions are actually represented by two paradigms: the analytic and continental.

The analytical paradigm holds that linguistic communication is nothing more than back-and-forth propositional understanding. Understanding and communication are propositional by nature and the goal is transmission of thoughts. If the interpreter comprehends the thoughts transmitted, the goal of communication is obtained: communication is reduced to an act of understanding. This fits in the informative model of communication. In integral terms, this tradition focusses on the exchange of 'its' to transfer my interior 'I' to your interior 'I'; meaning is in my I and needs to be transmitted to your I. Meaning is subjective. Communication is about transmitting 'signifieds'.

But what's the purpose of understanding itself anyways? For Habermas, the goal of coming to an understanding is "intersubjective mutuality ... shared knowledge, mutual trust, and accord with one another". (1979:3) This view is represented by the continental paradigm (Heidegger, Gadamer and Habermas). The continental paradigm holds that the process of understanding is essentially a process of linguistic communication. Understanding and communication are hermeneutic. Genuine understanding is a process of reaching and coming to an understanding through conversation, which is dialectic. In integral terms, hermeneutics focusses on the creation of 'we's'; the meaning is dialectic in the exchange. We create meaning, and meaning is intersubjective.

Suppose you and I talk to each other. This implies that we already share some sort of background culture (at least a network of shared language) and that you and I are already in some sort of a first-person plural phenomenological space. Suppose we are friends and share a history. What is internal to this 'we' are all our present and past intersections (the inter-subjective occasions) that are contained in the phenomenological space defined by the specific ways in which you and I use the word 'we'. The history of this 'we' regulates how you and I understand each other, what our shared experiences are, the types of meaning that we can share, etc. And so somebody outside our circle will have a hard time understanding us. Likewise, on Google Discussion Groups people from different cultural traditions will have a hard time understanding each other. Hindus will have a hard time understanding Christians, or scientists will have a hard time understanding theists, and so forth, because of different hermeneutic circles; differences in historical, cultural (and thus linguistic) backgrounds. The meaning of the word 'God' for example will depend on the semantic domain within which it is found in. This can impede disputants to understand each other (impediment 2). This view is based on the monologue model of meaning underlying propositional understanding.

The hermeneutic circle is not a static boundary between us and him, or 'them', because each time I interpret what I think you mean, the circle of understanding has shifted, the 'we' has morphed. In order for people from different cultural traditions to understand each other, and to make sure that they understand each other, they have to go into dialogue. One cannot either impose one's own point of view or tradition onto the other (the projective understanding) or place oneself into the other's horizon, to know the other's horizon objectively (the adoptive understanding). In both cases, one has stopped trying to reach a genuine agreement with one another. One can experience the genuine otherness only by placing oneself in the other's tradition while still situated within one's own tradition. Hence, the process of reaching such an agreement is what Gadamer calls the process of fusing horizons: a fusion between the horizons of two parties through conversation, whereby one party's horizon is enlarged and enriched in terms of the engagement with the horizon of the other's, not replaced by the other's. According Gadamer,

'understanding' (*Verstehen*) of what a speaker is saying becomes an activity of participation, engagement, assimilation, and dialogue. To use '*Verstehen*', Gadamer intends to stress its close affinity to *Verstandigung* 'coming-to-an-understanding'. This view is based on the dialectic model of meaning underlying hermeneutic understanding. Disputants need to go into dialogue (turn an alien 3rd-person into a 2nd-person) and share inside interiors (fuse horizons) in order to come to an understanding. As impediment 1 suggests, we consider this to be a socio-psychological impediment (because disputants need to go into dialogue and see each other as subjects, not objects) which can be detected by a conversation-analysis.

Mutual understanding involves the exchange of third-person signifiers (or 'its') - like the words on this page - in an attempt to understand a second-person individual (or 'you') as a first-person subject (or 'I'), so that your 'I' and my 'I' can intersect in a first-person plural 'we'. This entire process implies that there is some degree of access to those first- and second-person realities; realities that can only be known by *acquaintance*, not description. Any literate person can read the words 'square root of a negative one', but only those who have developed to a formal operational cognitive capacity and studied mathematics can share the signified (Wilber, 1997, p. 314). A virgin could hear the word 'sex' (the signifier) on television, but would not share the same signified as a non-virgin because the virgin has not had the experience of sex. The key is: you must have the experience to know what the words actually mean. In order for intersubjectivities to be actual intersections, they must collide in a real phenomenological space. Integral theory holds that such experiences occur in a 'worldspace', indicated by Wilber: "While all those who have reached linguistic competence can share signifiers, only those who coexist within the worldspace of the referent and have experienced the referent can share signifieds" (Wilber,1997, p. 314). As we have seen in chapter 2, and as indicated by Leonard, A. (2004); according integral theory, the worldspace where a referent resides could be a quadrant, level, line, state and/or type. Of these elements, Wilber puts most focus on levels: "All signs exist in a continuum of development referents and developmental signifieds". Wilber holds that interlocutors need to be one the same level of depth, which he labels as 'vertical solidarity'. This means that the intersections or shared signifieds that are internal to the 'we' must be of the same general depth or else they will slide over and under each other and fail to mutually resonate. 'Horizontal solidarity', refers to cultural solidarity as it unfolds at similar depths (the varieties of solidarity occurring at any given depth) and simply refers to all the things that can 'horizontally' or 'translatively' happen to cultural intersubjectivity. In terms of integral theory, experiences are in a worldspace, which is interpreted vertically or 'holarchically', where higher levels can literally *com-prehend* lower levels and not vice versa, while cultural solidarity is interpreted horizontally or 'translatively' (various hermeneutic circles on a particular level). In this research we hold that a particular worldspace (which is a phenomenological world or hori-zone), and the particular perception within a worldspace (which is the experience or 'signified') stem from perspectives. Hence, the difference in phenomenology can be understood in terms of the integral perspectives. We call this difference, a difference of metaphysical world-views. Disputants might not understand each other 'by acquaintance' because they do not share the worldspace of the referent, or have not perceived the referent (do not share the signified, experience or perception).

## *Appendix 4: Theoretical Delineation of Part 1*

(Chapter 1)
- Disputants of the creation-evolution controversy can hold a range of epistemological perceptions.

(Chapter 2)
- These diverse perceptions stem from perspectives; what you see depends on how you look.
- The basic interior/exterior + singular/plural perspectives of the integral framework are mutually exclusive and jointly exhaustive and thus allow us to map how all possible perceptions of the topic derive from these basic perspectives.
- The 'perceptions' can be interpreted semantically or epistemologically; we can say that 'religion' is something in the external world that is understood differently by different people (epistemologically), but also that 'religion' is a word that means different things to different people (semantically).
- A particular meaning of a word, or a particular understanding of the world, derives from a particular perspective, and so semantics is understood in terms of the basic perspectives.
- In this chapter, the integral framework is used to elucidate the epistemic/semantic 'fits' and 'misfits' of the creation-evolution controversy in order to reveal the potential problems of mutual understanding/meaning in the discussion.

(Chapter 3)
- We define framing as the enactment of particular perspectives over others, and these basic perspectives (interior/exterior + singular/plural) transpire in language, through the semantics pointed out in chapter 2 (meaning of words), but also through the syntax pointed out in chapter 3 (meaning of structure).
- The syntax of language can reveal the speaker's metaphysical worldview, which signifies both his/her basic *ideas* about how the world works (ideology), and the speaker's social world, or his/her ideas on *identity*.
- We use both the syntax and semantic of language (we look at the meaning of words and the meaning of structure) for our framing analysis
- Because we define framing in terms of the jointly exhaustive and mutually exclusive perspectives, we can clearly see, not only what is framed (inside the frame), but also what is outside the frame.

## Appendix 5: Correlation of Ideological Categories

| | Objective Evolutionist | Interpretive Evolutionist | Interpretive Creationist | Correct Creationist |
|---|---|---|---|---|
| **Objective Evolutionist** | x | Fact vs. Concept<br>Positivism vs. Interpret.<br>Monism vs. Pluralism<br>Practice vs. Paradigm<br>Empiricism vs. Rational. | Fact vs. Concept<br>Positivism vs. Interpret.<br>Monism vs. Dualism<br>Natural vs. Spiritual<br>Practice vs. Paradigm<br>Empiricism vs. Rational.<br>Rational. vs. Fideism<br>Fact vs. Value | Matter vs. Mind<br>Natural vs. Supernatural<br>Rational. Vs. Fideism<br>Fact vs. Value |
| **Interpretive Evolutionist** | Concept vs. Fact<br>Interpret. vs. Positivism<br>Pluralism vs. Monism<br>Paradigm vs. Practice<br>Rational. vs. Empiricism | x | Pluralism vs. Dualism<br>Natural vs. Spiritual<br>Fact vs. Value | Concept vs. Fact<br>Interpret. vs. Positivism<br>Pluralism vs. Monism<br>Natural vs. Supernatural<br>Practice vs. Paradigm<br>Rational. vs. Fideism<br>Fact vs. Value |
| **Interpretive Creationist** | Concept vs. Fact<br>Interpret. vs. Positivism<br>Dualism vs. Monism<br>Spiritual vs. Natural<br>Paradigm vs. Practice<br>Rational. vs. Empiricism<br>Fideism vs. Rational.<br>Value vs. Fact | Dualism vs. Pluralism<br>Spiritual vs. Natural<br>Value vs. Fact | x | Concept vs. Fact<br>Dualism vs. Monism<br>Interpret. vs. Positivism<br>Spiritual vs. Supernat.<br>Practice vs. Paradigm<br>Rational. vs. Fideism |
| **Correct Creationist** | Mind vs. Matter<br>Supernatural vs. Natural<br>Fideism vs. Rational.<br>Value vs. Fact | Fact vs. Concept<br>Positivism vs. Interpret.<br>Monism vs. Pluralism<br>Supernatural vs. Natural<br>Paradigm vs. Practice<br>Fideism vs. Rational.<br>Value vs. Fact | Fact vs. Concept<br>Monism vs. Dualism<br>Positivism vs. Interpret.<br>Supernat. vs. Spiritual<br>Paradigm vs. Practice<br>Fideism vs. Rational. | x |

Explicit Conflicts

| | Objective Evolutionist | Interpretive Evolutionist | Interpretive Creationist | Correct Creationist |
|---|---|---|---|---|
| **Objective Evolutionist** | x | Empiricism vs. Rational. | Natural vs. Spiritual Empiricism vs. Rational. Rational. vs. Fideism Fact vs. Value | Matter vs. Mind Natural vs. Supernatural Rational. Vs. Fideism Fact vs. Value |
| **Interpretive Evolutionist** | Rational. vs. Empiricism | x | Natural vs. Spiritual Fact vs. Value | Natural vs. Supernatural Rational. vs. Fideism Fact vs. Value |
| **Interpretive Creationist** | Spiritual vs. Natural Rational. vs. Empiricism Fideism vs. Rational. Value vs. Fact | Spiritual vs. Natural Value vs. Fact | x | Spiritual vs. Supernat. Rational. vs. Fideism |
| **Correct Creationist** | Mind vs. Matter Supernatural vs. Natural Fideism vs. Rational. Value vs. Fact | Supernatural vs. Natural Fideism vs. Rational. Value vs. Fact | Supernat. vs. Spiritual Fideism vs. Rational. | x |

Implicit Differences

| | Objective Evolutionist | Interpretive Evolutionist | Interpretive Creationist | Correct Creationist |
|---|---|---|---|---|
| **Objective Evolutionist** | x | Fact vs. Concept Positivism vs. Interpret. Monism vs. Pluralism Practice vs. Paradigm | Fact vs. Concept Positivism vs. Interpret. Monism vs. Dualism Practice vs. Paradigm | |
| **Interpretive Evolutionist** | Concept vs. Fact Interpret. vs. Positivism Pluralism vs. Monism Paradigm vs. Practice | x | Pluralism vs. Dualism | Concept vs. Fact Interpret. vs. Positivism Pluralism vs. Monism Practice vs. Paradigm |
| **Interpretive Creationist** | Concept vs. Fact Interpret. vs. Positivism Dualism vs. Monism Paradigm vs. Practice | Dualism vs. Pluralism | x | Concept vs. Fact Dualism vs. Monism Interpret. vs. Positivism Practice vs. Paradigm |
| **Correct Creationist** | | Fact vs. Concept Positivism vs. Interpret. Monism vs. Pluralism Paradigm vs. Practice | Fact vs. Concept Monism vs. Dualism Positivism vs. Interpret. Paradigm vs. Practice | x |

A 'conflict' in this is an 'actual convergence' of issue-frames, but the convergence can be a dialogue or conflict.

Explicit Conflicts on Google Discussion Groups

| | Objective Evolutionist | Interpretive Evolutionist | Interpretive Creationist | Correct Creationist |
|---|---|---|---|---|
| **Objective Evolutionist** | x | | Natural vs. Spiritual<br>Fact vs. Value | Matter vs. Mind<br>Natural vs. Supernatural<br>Rational. Vs. Fideism<br>Fact vs. Value |
| **Interpretive Evolutionist** | | x | Natural vs. Spiritual | Natural vs. Supernatural<br>Fact vs. Value |
| **Interpretive Creationist** | Spiritual vs. Natural<br>Value vs. Fact | Spiritual vs. Natural | x | Spiritual vs. Supernat. |
| **Correct Creationist** | Mind vs. Matter<br>Supernatural vs. Natural<br>Fideism vs. Rational.<br>Value vs. Fact | Supernatural vs. Natural<br>Value vs. Fact | Supernat. vs. Spiritual | x |

Explicit Dialogue on Google Discussion Groups

| | Objective Evolutionist | Interpretive Evolutionist | Interpretive Creationist | Correct Creationist |
|---|---|---|---|---|
| **Objective Evolutionist** | x | Empiricism vs. Rational. | | |
| **Interpretive Evolutionist** | Rational. vs. Empiricism | x | | |
| **Interpretive Creationist** | | | x | Rational. vs. Fideism |
| **Correct Creationist** | | | Fideism vs. Rational. | x |

*Quotes From the CE-Groups:*

i

http://groups.google.com/group/talk.origins/browse_thread/thread/8d65a72040e29080/f064798adab1d6c8?hl=nl&q=The+creation-evolution+continuum+is+an+excellent+introduction+for+those+who+erroneously

ii

http://groups.google.com/group/talk.origins/browse_thread/thread/23bc9f60c85ebd83/103057ffe60c7e06?hl=nl&q=talk+origins+%22no+God+created+life%22

iii

http://groups.google.com/group/talk.origins/browse_thread/thread/23bc9f60c85ebd83/103057ffe60c7e06?hl=nl&q=talk+origins+%22no+God+created+life%22

iv

http://groups.google.com/group/talk.origins/browse_thread/thread/2823618cfce6033d/0e93d85d428360ed?lnk=gst&q=%22spiritual+is+not+material%22#0e93d85d428360ed

v

http://groups.google.com/group/talk.origins/browse_thread/thread/ef9c87ede7e94d96/6103fa65fb5be6d9?lnk=gst&q=I+think+our+present+preoccupation+#6103fa65fb5be6d9

vi

http://groups.google.com/group/atheism-vs-christianity/browse_thread/thread/958b7e662f12aaad/d56c43f323a872f4?q=%22For+your+info+only+hindus+have+the+attitude%22

vii

http://groups.google.com/group/alt.talk.creationism/browse_thread/thread/5bfb9b7cbd416836#+And+religion+and+spirituality+is+no+theory

viii

http://groups.google.com/group/seattle.general/browse_thread/thread/eaebe74e39cfeeac/b8f24ba31772c24c?lnk=gst&q=%22spiritual+people%22#b8f24ba31772c24c

ix

http://groups.google.com/group/talk.origins/browse_thread/thread/2823618cfce6033d/0e93d85d428360ed?lnk=gst&q=%22spiritual+is+not+material%22#0e93d85d428360edd+Scientific+investigation

x

http://groups.google.com/group/atheism-vs-christianity/browse_thread/thread/4f074eec9f9408db/a0455c017fe01db0?q=%22the+scientific+method+cannot+apply%22

xi

http://groups.google.com/group/talk.origins/browse_thread/thread/2823618cfce6033d/0e93d85d428360ed?lnk=gst&q=%22spiritual+is+not+material%22#0e93d85d428360edd+your+theory+is8&66234ff433433dsf-experienceuy376

xii

http://groups.google.com/group/talk.origins/browse_thread/thread/43412885d460ed?lnk=gst&q=%2%22#0e93d85d428360edd+your+is8&66234ff433433dsf-experienceuy376

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xiii

http://groups.google.com/group/talk.origins/browse_thread/thread/2823618cfce6033d/0e93d85d428360ed?lnk=gst&q=%2222#0e93d85d428360e+is8&66234ff433433dsf-experienceuy376

xiv

http://groups.google.com/group/alt.talk.creationism/browse_thread/thread/7edd965/6103fa65fb5be6d9?lnk=gst&jkg72200d

xv

http://groups.google.com/group/talk.origins/browse_thread/thread/2gg82e3618cfce60e93d8d42836gddgv0ed?ln=gst2ggd#0e9d4283606d62h34ef43e3d

xvi

http://groups.google.com/group/talk.origins/browse_thread/thread/jasd84b8ndns9-07s84je385hwitj943t4396gjeker364

xvii

http://groups.google.com/group/tatheism-vs-christianity/browse_thread/thread/6033d/0e85d40ed?lnkf=rgst&2#0e93d85d428360edd&66233r3433dsexrperiefuy3hsfa83

xviii

http://groups.google.com/group/atheism-vs-christianity/browse_thread/thread/gh5y033d/0e93d85d428360ed?2#0egj93d85d4jg8360e34ff433433dsgjj3expddgdgrdf

[xix] https://groups.google.com/forum/?hl=nl&fromgroup#!topic/atheism-vs-christianity/-yGXSJHqyf4

xx

http://groups.google.com/group/alt.talk.creationism/browse_thread/thread/5744f83c948c1001/7b2dbaea718ac492?q=%22That%27s+how+stupid+creationists+are%22

xxi

http://groups.google.com/group/misc.kids/browse_thread/thread/6e17d6b64f0a2782/8ff64a748e5aaa72?lnk=gst&q=%22religion+does%22#8ff64a748e5aaa72

xxii

http://groups.google.com/group/alt.talk.creationism/browse_thread/thread/5744f83c948c1001/7b2dbaea718ac492?q=%22That%27s+how+stupid+creationists+are%22

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http://groups.google.com/group/talk.origins/browse_thread/thread/6dd89f714ba145b5/877d931ce6dcb11a?lnk=gst&q=%22creationism+and+evolutionism%22#877d931ce6dcb11a

xxiv

http://groups.google.com/group/talk.origins/browse_thread/thread/23bc9f60c34fwebd83/103057ffe60c7e06?hl=nl&q=talk+origins+%22

xxv

http://groups.google.com/group/misc.kids/brows/thread/6e17d6b64f0a2782/8ff64a748e5aaa72?lnk=gst&q=%2 %22#8ff64a748e5aaa72

xxvi

http://groups.google.com/group/talk.origins/browse_thread/thread/231207bf368e49b6/d1dbe7b02aa646d1?q=%22all+evidence+is+subjective%22

xxvii

http://groups.google.com/group/soc.culture.singapore/browse_thread/thread/d3cd739878b2517d/beeb1e5ad83175bd?q=%E2%80%9CThere+are+only+two+kinds+of+people%22+belief

xxviii

http://groups.google.com/group/alt.talk.creationism/browse_thread/thread/5744f83c948c1001/e65f55b6ec9e8acf?q=%22too+stupid+to+define+evolution%22

xxix

http://groups.google.com/group/alt.talk.creationism/browse_thread/thread/5744f83c948c1001/702ad71c265f0bd0?q=%22Have+you+seen+a+picture+of+Darwin%3F+%22

xxx

http://groups.google.com/group/a.bsu.religion/browse_thread/thread/774c8afc7ba70699/76cd1ef39b2efc9d?lnk=gst&q=faith+reason#76cd1ef39b2efc9d

xxxi

http://groups.google.com/group/atheism-vs-christianity/browse_thread/thread/31502407d3cfa17e/388eec3903e2ee54?lnk=gst&q=empiricism+rationalism#388eec3903e2ee54

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http://groups.google.com/group/talk.origins/browse_thread/thread/231207bf368e49b6/d1dbe7b02aa646d1?q=%22all+evidence+is+subjective%22

xxxiii

http://groups.google.com/group/atheism-vs-christianity/browse_thread/thread/435d3fef76248684/9bfad7cf3cc8599c?lnk=gst&q=real+mind+matter#9bfad7cf3cc8599c

xxxiv

http://groups.google.com/group/talk.politics.drugs/browse_thread/thread/4f710cf582e46771/9049dc6ab8dbfa61?lnk=gst&q=%22religion+means%22#9049dc6ab8dbfa61

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http://groups.google.com/group/atheism-vs-christianity/browse_thread/thread/edabf25e13c34c29/ab3910ea74f980f9?lnk=gst&q=%22the+scientific+method+means%22#ab3910ea74f980f9

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http://groups.google.com/group/atheism-vs-christianity/browse_thread/thread/aa7d35e7c66b2eae/ad500d2f72637958?lnk=gst&q=%22moral+education%22#ad500d2f72637958

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http://groups.google.com/group/talk.origins/browse_thread/thread/23bc9f60c85ebd83/2124bad0aa4b8581?q=%22Just+to+make+everybody%27s+day%22

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http://groups.google.com/group/talk.origins/browse_thread/thread/dd22ad0c1726223/eb66f9c94e92e397?q=%E2%80%9CThis+is+for+you+evolutionists+who+continue+to+claim+to+never+have+even+heard+of+creation+theory+despite+the+fact+that+we+creationists+continue+to+post+such%E2%80%9D

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http://groups.google.com/group/alt.talk.creationism/browse_thread/thread/5744f83c948c1001/7b2dbaea718ac492?q=%22That%27s+how+stupid+creationists+are%22