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Contingent Reality as Participation[1]

In this essay, I refer to contingency as a crucial, but complex and multi-faceted notion at the modern intersection of science, culture and religious world-views. Every notion of human understanding, including any view of modernity itself, is understood as a contingent product of time and chance. This applies to religious world-views as well, which in modernity are understood as contingent choices from an ever-widening variety of spiritual options. At the same time, religious views basically try to cope with contingencies of reality by relating them to ultimate categories. Thus the notion of contingency links different discourses about the range and limits of knowledge, about significance and purpose and about ultimate and relative validity. In this essay, therefore, I distinguish between different aspects of contingency and explain their significance within third-person, first-person, and second-person perspectives on reality. Finally, I argue for the interrelatedness of all three perspectives and the importance of second-person approaches for the dialogue between science and religion, especially with regard to contingency and divine action.

1. Contingency and Modernity

We live in times which are characterised by a deep sense of contingency. In his extensive study on *Contingency, Irony, and Solidarity* from 1989, American philosopher Richard Rorty stresses the contingency of language, of selfhood, and of a liberal community. We have reached a point "where we treat everything – our language, our conscience, our community – as product of time and chance" (Rorty 1989, 22). In his view, the contingency of language is responsible for the contingency of all our understanding of reality including science which is not "less 'mind-dependent,' than the redescriptions of history offered by contemporary culture criticism" (16). Many contemporaries see everything as shaped by the conditions, biases, and historic formations in which it develops, and they are reluctant to identify any universal and necessary obligations.

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[1] I am indebted to Dr. Michael Fuller (Edinburgh) for making my English acceptable to those who know the language.

This applies to religious beliefs as well, at least in their traditional forms. It seems obvious that they share the common fate of modernity; and for many, they no longer represent ultimate truths resting on divine revelation, but are seen to be just one contingent option among a multitude of alternatives. And these options show an immense variety, from religious, spiritual, or agnostic to decidedly anti-religious forms of thinking, which individuals and groups adopt in order to make sense of their lives and give shape to their spiritual aspirations. Canadian philosopher Charles Taylor speaks of the NOVA effect of modernity, an explosion of forms of religious and humanist alternatives "spawning an ever-widening variety of moral / spiritual options," that begins in the 18th century and continues to this day (Taylor 2007, 299). In this process, "theism" becomes "one option among others" (Taylor 1989, 401), and not only intellectuals, but whole societies get shaped by the awareness that every world-view is contingent insofar as it is just one possible choice and can be revised if one wants.

However, while it seems obvious that in (post-)modern pluralist societies conscious of historic relativity religion itself suffers from contingency and from becoming one option among many on a par with each other, it has been argued that religious beliefs still retrieve significance as means of explaining and dealing with contingencies. Although itself contingent, religion has been defined as the practical competence of coping with contingencies mainly by accepting them and ascribing meaning to them (cf. Luhmann 2009, 90: Religion transforms indefinite into definite contingency; Lübbe 1986: Religion is the practical ability of mastering contingency [*Kontingenzbewältigungspraxis*]). In this view, religion integrates the contingencies of reality into a larger framework of divine providence and guidance which not only provides confident perspectives for action, but also a fundamental feeling of acceptance and dignity. Within such an ultimate framework, everything has meaning because in the end it is what it is by divine purpose, although on the surface it might appear to be brought about by chance. Thus, it seems, the issue of contingency reaches deep into the cultural formation of pluralist and relativist societies, and it is by no way clear whether or not contingency is friend or foe to religion.

In the case of science, the overall picture is comparably ambiguous. On the one hand, science seems to be that realm of human knowledge in which contingency is reduced to a minimum. For many, science provides objective knowledge and thus is the most important tool for dealing with and preparing for contingencies. It even allows for risk management on a rational basis. On the other hand, science has revealed that life on this planet, including human life, is the result of contingent processes in which many things could

have been different. And even if one believes that science can also account for general trends in evolution, we as individuals are the result of a random recombination of genes, and as individuals as well as a species we are always prone to catastrophes which are indifferent to our existence. Science has also dissolved the coherence between cosmic order and human existential dimensions. Are we but a random and short-term phenomenon within the void spaces and times of cosmic developments? Does this contingency question or strengthen the significance of our existence? What is missing is "a systematic understanding of how we and other living things fit into the world" (Nagel 2012, 128). Irrespective of possible (contingent, non-necessary!) answers to this question, the awareness of the issue shapes human self-understanding in modernity.

Equally controversial is the significance of science for religious views. Do the limits of science point towards the divine, which is beyond nature? Or does the success of science indicate the closure of reality against any transcendent force, being, or dimension? For the first time in history, living without reference to any transcendent power and within an impersonal order (Taylor calls this the "immanent frame," cf. Taylor 2007, 539) has become possible and attractive to many. Ultimate contingency might be the final word of science as it becomes interchangeable with impersonal necessity. And science itself is a historical and contingent phenomenon as well. Does it tell the whole story? Does it provide guidance to the fulfilment of life, or do we need other sources for moral, ethical, and existential orientation?

I see contingency as a crucial but complex and multi-faceted notion which marks the modern intersection of science, philosophy, and religious worldviews. It links different discourses about the range and limits of knowledge, about significance and purpose and about ultimate and relative validity, but is in itself a highly ambiguous term. In the following, therefore, I want to distinguish between different aspects of contingency (2.). I will then explore the significance of contingency within third-person, first-person, and second-person perspectives on reality (3.). Finally, I will argue for the interrelatedness of all three perspectives and the importance of second-person approaches for the dialogue between science and religion, especially with regard to divine action (4.).

2. Different Aspects of Contingency

There are different senses of contingency which can be distinguished and reveal different aspects of the term.

(1) First of all, contingency has a meaning in modal *logic* and logical semantics of direct speech. It is usually understood in concordance with Aristotle's definition as the symmetric possibility to be or not to be (Brugger 1976, 1028). What is logically contingent is that which is neither impossible nor necessary, but could possibly be or not be the case: The proposition p is contingent iff $\diamond p \wedge \diamond \neg p$ (read: possibly p and possibly *non p*). Or, expressed in possible world semantics: p is contingent iff there is at least one possible world in which p is true *and* at least one possible world in which *non p* is true.

(2) Apart from the logical sense, the term denotes *ontological contingency*, i.e., a characteristic of events which have no cause or reason at all. Within the framework of certain interpretations of quantum mechanics, quantum events can be said to happen without any antecedent cause and for no reason. Insofar as these interpretations hold the view that there is a positive argument for the non-existence even of hidden causes, they consider quantum events like the decay of a radioactive element as ontologically contingent and indeterminate in a strong sense of the word. However, ontological contingency still follows certain probabilities. Even if every *single* event happens without cause or reason, the *ensemble* of events can show certain characteristics of probability, for example, a certain decay rate or a certain distribution of values, and this distribution can be reproduced and predicted with great precision.

Even if one assumes that ontologically indeterminate events exist, physical reality must be composed of contingency and necessity. The fact of successful scientific predictions of events excludes the option that *everything* is contingent. If anything might happen anytime science would be impossible.

(3) *Epistemological contingency* is the view that the contingency of events is the consequence not of ontological indeterminacy, but of our lack of knowledge. When a die is thrown, the outcome of the throw is contingent because we cannot predict it. It is not that there are no causes for the fall of the die, but the causes are too difficult or complex to be identified and calculated. The trajectory of a die thrown might be determined in every aspect by the laws of mechanics, but still its calculation is technically and principally impossible so that the result is said to be contingent. Besides, dice have no absolutely ideal edges and angels. And even if a die had ideally sharp edges at the atomic level, the atoms at the edges would be subject to random thermic movement. In any case, the movement of a rotating die falling onto a flat surface is always following unstable curves with bifurcations at which even infinitely small perturbations may lead to very different continuations of its movement with the result of a possibly different resting position with a

different integer on the upper surface. Again, an ensemble of similar events under the same conditions might follow statistical distributions of probability, so that throws of similar dice produce similar statistical distributions of outcomes. We can infer from a series of throws of a die that the die is probably not of a regular cubic shape or of a homogenous mass if a certain number appears significantly more often than another.

Epistemological contingency as unpredictability comes at different levels. Some physical systems are in principle and in the long run unpredictable, although we model them as deterministic. When systems such as the weather, turbulent smoke, or the throw of a die are highly sensitive to initial conditions or disturbances, they are called nonlinear or 'chaotic' systems whose behaviour cannot be predicted beyond a certain point in time. Small differences in initial conditions lead to widely diverging outcomes, rendering long-term prediction impossible. On the one hand, we cannot know the initial conditions of a chaotic system perfectly, since we can only measure and calculate within limited error margins. On the other hand, nonlinear equations can be so complicated that they do not have a precise solution. Contingency in these cases has to do with finite knowledge of conditions and measurements, and with the fact that we operate in the field of real numbers and with equations too complex to solve. As in the case of a probabilistic description of ensembles of events, the behaviour of nonlinear systems often shows characteristic self-repeating patterns (known as 'strange attractors'). These patterns represent (infinitely dense) possible developments within the state space of a system, and they can be modelled and described in their global properties with the help of mathematics. Often (but not always), their geometry is of a fractal dimension so that, for example, an infinite trajectory within a two-dimensional state space is neither a one-dimensional line nor a two-dimensional plain, but a geometrical figure with a fractal dimension somewhere between 1 and 2. This fractal dimension can be understood as representing the degree of 'chaoticity' of that system.

Again, it is an open question whether unpredictability, chaoticity, and strange attractors are properties of our models only or also of real world systems. One possible hypothesis is that chaotic models point to real, structural properties of reality which evade an absolutely determined description but only allow for predictions of qualitative behaviour rather than quantitative details, geometric features rather than causal processes, and patterns rather than law-like necessity (cf. Kellert 1993). Thus, epistemological contingency can be interpreted as an indication of ontological contingency.

(4) Another, common sense of contingency is compatible with a strict deterministic understanding of reality. One can call it *coincidental contin-*

gency. Especially when interacting with a directional or ordered process or system, events are called 'contingent' if their formation took place independently from that process. Thus, many would call the impact of the meteor which is considered to be responsible for the extinction of dinosaurs contingent, although the impact as such might have followed strict deterministic laws of motion. There are two processes (the development of life on earth and the trajectory of a meteor) which originated independently from each other and then suddenly interact in a way that changes one or both of these processes significantly. When two sufficiently independent chains of causation interact, such a coincidence is referred to as a contingent coincidence. Many biologists would say that genetic mutations happen contingently because they happen independently of the processes which are relevant for the survival of the respective organism and do not follow a certain direction or propensity. That would mean that evolutionary development on this planet is fundamentally contingent and could have taken very different paths.

A more *existential* variant of *coincidental contingency* refers to the interaction of causal chains as well, but against the background of intentional free agents. Aristotle (see Brugger 1976) calls this fate or chance (*tychē*), and illustrates it with the example of a man going to the market to see a theatre play unexpectedly meeting his debtor, who pays him back the money which he owes him (*Physics II*, 4–6, 196a–198a). From an observer's perspective there would be no difference if the man had gone to the market in order to meet his debtor because he knew that he would be there. But given the non-corresponding actual motives of the man, the result of the debt paid back and the man going back home with his money can be said to be contingent. Contingency in this sense of the unexpected can only occur in connection with intentional agents who anticipate possible consequences, and it refers to an unintended effect of goal-directed acts. Of course, the outcome may not always be good fortune, but can also be bad luck.

(5) This leads to the last aspect of the semantic field of contingency, *human freedom*. In our usual way of speaking about and dealing with human agency, we understand free decisions as an eminent source of contingency. The person who decides something is responsible for it, and although many things might influence the decision, the outcome is ascribed to the final decision of the subject. It is a matter of philosophical debate whether or not this freedom of choice is absolutely indeterminate or determined by conscious as well as subconscious and unconscious reasons and causes. In the first case, human contingent freedom would be indistinguishable from chance, in the second, it would match necessity. However, our normal

understanding of human freedom implies that in principle every free decision could have been otherwise – at least from all that the person herself or outsiders could have known.

In all five aspects, contingency is not a property as such. It is not a cause in itself, although sometimes we speak as if it were an active force within nature. It is a term with which we describe certain events in relation to what we know or how we interpret a situation. Hence contingency is a category in relation to something else: Something is contingent for someone and with respect to something, nothing is contingent as such. Only in a certain perspective and within certain frameworks of reference can it be claimed that something could have been or could be otherwise in this specific respect.

In the *logical* sense something is contingent if neither its assertion nor its negation creates a logical contradiction within a certain logical system. Especially with regard to modal logic different systems of different strengths are possible, and while the overall formal definition of contingency stays the same, different inferences can hold from and to contingency (cf. Hughes and Cresswell 1996). Especially in quantified modal logic, the question of the identity of individuals with regard to their counterfactual possibilities and the question of 'existence' of non-real, but possible entities become crucial. In the end, everything which is logically contingent is contingent only in relation to certain logical systems and concepts of individuals and existence (cf. Evers 2006, 140–52). In an *ontological* sense, contingency is a concept related to causes and reasons. Depending on our philosophical understanding of causal and rational chains, contingency designates the missing, the absence of sufficient causes or reasons with regard to a certain event. In an *epistemological* sense, contingency is related to our methods and means of understanding. In a strict sense, science as a set of methodological procedures to test and validate theories without uncovering reality 'as such' should restrain itself to epistemological contingency. The question if and how epistemological contingency can count as an argument for certain kinds of ontological contingency is rather a matter of philosophical reflection than of empirical science. Even in the case of statistical laws, including quantum events, interpretations are possible which postulate unobservable parameters or over-complexity in order to reduce contingency from the ontological to the epistemological. In the *coincidental* and *existential* sense, something is contingent in reference not only to our empirical and formal methods, but also in reference to our self-understanding and notions of intentionality with which we interpret ourselves and try to identify entities and processes like causal chains.

3. Contingency and Perspectives on Reality

In the previous section, I have argued that the notion of contingency does not refer to a property of reality as such, but that it stands for a category which is always relative to human understanding, conceptualizing, and (scientifically as well as existentially) interpreting reality. In the following, I attempt to show how different perspectives on reality shape respective notions of contingency. I will argue for at least three fundamental perspectives on reality, which only in their interplay allow for an appropriate discussion of contingency. The claim is that, in the history of modernity, science led to a concept of reality consisting of objective items and facts and employing propositional language, in which qualitative properties, consciousness and free will were difficult to integrate. Since the 18th century, transcendentalist and idealist concepts have reversed the order of justification and pointed to the fact that we cannot understand reality as such, but only as it appears to us. For those concepts, the structural foundations of reality had to be reconstructed through a careful analysis of human reason and its capacity of self-reflection in a first-person perspective. Objective reality appeared to be secondary and subordinate to human categorical concepts, while morality, reason, and values were seen as central and basic with regard to human existence.

However, recent developments in science, as well as in philosophy and the humanities, point to the fact that both perspectives on reality, the third- and the first-person approach, are closely intertwined with each other and that both perspectives have to be supplemented with phenomenological and social categories such as body, culture, language, and practice. In the following, I will argue that the dichotomy between an 'objective' reality of scientific facts and a 'subjective' inner world of unmediated self-reflective inwardness must be overcome by adding second-person perspectives.

a) Reality in a Third-person Perspective

Reality in a third-person perspective is a way of investigating and understanding reality by referring to its mind-independent and reproducible features. Reality in this respect is what it is and not what we want it to be. Classical philosophy referred to this factual aspect of reality with the Latin term *realitas*, as everything which is an actual thing, a *res*. Today, we consider those things as facts which are not illusory or dependent on the beliefs or wishes of the investigator, but can be asserted publically and reliably. Thus, approaches in a third-person perspective provide the basis for any realistic view of the ways things are. That there is a mind-independent reality exter-

nal to us, however, is a result of an internal process of differentiation. It is through confrontation that we learn to distinguish between ourselves and external reality. As small children we discover, sometimes painfully, that there is a fundamental difference between what we strive for and the way things are. What is real imposes on us the way things are, by their resistance against arbitrary manipulations. We have to adapt to, but we also get instructed by, reality and hence we begin to differentiate between what we intend, what is possibly subject to our manipulation, and what we can and cannot achieve by way of interacting with reality. It is part and parcel of the self-understanding of modern science that it is the most elaborate way to conceptualize reality in a third-person perspective, by which it tells us how reality *really* is and not how it appears to be. In this respect, „Science is a continuation of common sense" (Quine 1999, 45) and promotes what is called 'scientific realism.'

The most intuitive argument in favour of scientific realism is the reference to the success of scientific explanations, commonly referred to in recent discussions as the 'no-miracles argument.' In the words of Hilary Putnam: „Realism is the only philosophy that doesn't make the success of science a *miracle*" (Putnam 1975, 73). One can point to the predictive power of science, to successful technical applications, but also to the fact that the accumulation of scientific knowledge has led to corroborated and coherent bodies of knowledge and theories. The fact that the notion of atoms is helpful in different areas of physics, chemistry, and biochemistry suggests that there really are such things as atoms. Even if we bid farewell to naïve realism, so that scientific theories are not true because they refer to reality as it is in itself, still the most plausible explanation for the success and the effective development of scientific theory is that it has got hold of certain aspects of reality.

On the other hand, there are important considerations speaking against a realist interpretation of science. Theorists like Pierre Duhem and Willard Van Orman Quine have developed an argument which became known as the underdetermination of theory by data or the holistic view of theory (Duhem-Quine thesis, see Duhem [1906] 1954 and Quine 1999). According to their analysis, the same set of data can be interpreted by different theories, as long as those theories are elaborate enough. Different, conflicting theories can be kept consistent with a certain set of data through variations of unobservable theoretical categories. Or, in the words of Quine: „Any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system. ... Conversely, by the same token, no statement is immune to revision" (Quine 1999, 43). This even includes the establishment

of the relevant data, since what counts as fact is already theory-laden and thus dependent on the respective type of theory which one chooses to apply. Beyond the demand for consistency with the facts, other criteria have to be added in order to decide between different and conflicting alternative explanations. Such criteria are simplicity, fertility, scientific background knowledge, and intuitive knowledge linked to experience with experimental technique or instrumentation, as well as basic trust in nature, and others. Science as practice must be understood as a complex enterprise shaped by historical contingencies and embedded into basic views of the relation between reality, experience, and theory. Although one might want to distinguish between the underdetermination of a theory by data *at a particular time* and *in principle*, there are arguments for the view that even *in principle* we cannot discriminate between rival theories solely on the basis of observation and facts, since facts themselves are facts only with respect to a certain theory.

Thus, scientific realism today comes in different sub-types, like critical realism or internal realism, and can even be developed along the lines of anti-realist, constructive empiricism which reduces the idea of correspondence to empirical adequacy, as in the case of Bas van Fraassen, who asserts: "I claim that the success of current scientific theories is no miracle. It is not even surprising to the scientific (Darwinist) mind. … Only the successful theories survive – the ones which *in fact* latched on to actual regularities in nature" (van Fraassen 1980, 40). Putnam's internal realism claims that there are indeed "experiential *inputs* to knowledge," although there are no "inputs which are not themselves to some extent shaped by our concepts" (Putnam 1981b, 54). What makes his realism 'internal' is that not "language mirrors the world but that *speakers* mirror the world – i. e. their environment – in the sense of *constructing a symbolic representation of that environment*" (Putnam 1977, 483). It is enough for this kind of realism that what makes statements true or false is internally ascribed to something external – it is not our sense data or our concepts which *make* our scientific statements true. Our theories, notions, and concepts of objective, independent reality must be put to test in certain pragmatic respects. Although knowledge within a third-person perspective is *our* way of understanding reality, so that it is dependent on conventions, concepts, and constraints of language, and on social and cultural presuppositions, it is not totally determined by them.

This view brings an important feature of scientific method into the focus of attention: It is not by complying with our conjectures, assumptions, and hypotheses that reality enforces upon us its independence from our ideas and concerns, but mainly by letting us fail. In a third-person perspective, reality appears mainly as resistant, as that which brings itself to bear as inde-

pendent factual reality when we fail to 'get it right.' Karl Popper has claimed that we learn best *via* falsification, through failure, when reality refutes inadequate conjectures and when this happens on a regular basis (Popper [1963] 2002). The interplay between tentative theories (*conjectures*) and error elimination (*refutations*) accumulates knowledge.

When we ask for the meaning of contingency within third-person perspectives, we have to get back to the fact that contingency is neither a simple property nor an entity, but a relational term. In a third-person perspective, something is contingent in relation to certain explanations. With regard to classical physics, for example, boundary and initial conditions as well as natural constants like the gravitational constant are contingent prerequisites necessary for calculating a specific case. Other forms of scientific theory allow for more degrees of contingency. I am thinking of those theories which do not refer to fundamental levels of physical reality or to cosmological models, but attempt to describe the behaviour of complex systems on a mesocosmic level like chaos theory (see above). But one could also think of comprehensive theoretical frameworks like evolutionary theory, which refers to historical developments and mechanisms of variation and selection and thus applies 'weaker' forms of theoretical modelling. In all scientific theoretical settings, we can distinguish between formal parts of the theory, which represent necessity, and concrete variables, which represent contingent, factual elements. However, contingent elements of one theory can become necessary within another theoretical framework. In any case, science has to leave open the question of whether or not contingency could in principle be eliminated. Some have argued for the idea of a theory (or a set of theories) of everything in a cosmological perspective, which mathematically could not be otherwise (cf. Hawking and Mlodinow 2012). However, there are important considerations speaking against this idea. No final theory can account for its own inevitability and validity. And that a cosmological theory based on elementary physics entails *everything* in the cosmos which is the case seems to be by far too bold a claim, and not in coherence with the *de facto* plurality of sciences and methods which we actually pursue.

Thus, it seems safe to say that in theoretical, scientific third-person perspectives reality always disintegrates into necessary and contingent parts. The 'real' world is neither pure contingency nor pure necessity or pure determination; it is at least an interplay of both, or something in between. 'Realistic' scientific realism should concede that our reconstructions of reality in a third-person perspective cannot but divide reality into strictly necessary formal descriptions referring to those features of nature which we can rely on to a certain extent, and contingent facts which we feed into our theories.

And we will never be able to conclusively decide whether or not certain contingencies are 'really' ontological or 'only' epistemological, since we always have to start from within reality in order to make sense of reality in a third-person perspective: "Analyze theory-building how we will, we all must start in the middle" (Quine 1969, 4–5). Therefore, objective reality is neither one contingent 'Great Fact' (cf. Davidson [1969] 2001) nor the realization of the one, necessary theory: It is the interplay of processes which we describe as partly necessary and partly random or contingent, and with which we are playing along by trying to make sense of reality from within.

b) Reality in a First-person Perspective

As we have seen, science seeks to identify persisting regularities which we then can refer to as relatively stable laws and entities of nature. It is a complex, disciplined enterprise in a third-person perspective which basically confronts our conjectures with the hard properties of external, publically accessible reality. Debates about the validity of scientific knowledge have pointed out that science is pursued by human beings in certain settings, under specific historical circumstances, and within human categorical frameworks.

However, it is the human being itself that gets lost in a robust third-person perspective on reality. Subjectivity, inner feelings, attitudes, sensual *qualia*, or existential orientation, all of these phenomena cannot be dealt with in a third-person perspective alone. They do not stand, so to speak, before the observer's eye, but are always behind her back. They cannot be determined by constructive empirical methods alone, but are rather part of the implicit knowledge of scientific research and of the framework of empirical method rather than of its objects. The structures of scientific knowledge itself are not 'out there,' but rather deeply intertwined with our self-perception, with cultural formations, linguistic structures, and forms of speech.

The fact that science flourishes at the cost of subjective, qualitative, and individual aspects of reality is also reflected in the history of modern scientific cosmology. It has revealed an infinite cosmos in which humanity seems to be but an episode and a peripheral observer. Although arguments in line with the anthropic principle have renewed the idea that the cosmos might be made in order to bring humanity (or something like it) into being, the incongruence between the scientific order of the universe and the spatial, temporal and qualitative dimensions of everyday human existence can only be bridged *via* complex constructive arguments. Thus, cultural shifts and changes went hand in hand with the development of a scientific perspec-

tive on reality. Human beings began to understand themselves as detached from physical reality in their inner world. This is already reflected in the radical dualism of Cartesian philosophy, which categorically distinguishes between the corporeal, physical world as mainly characterized by extension (in Latin, *res extensae*) and substances of mental identity (in Latin, *res cogitantes*). While in pre-modern times the individual was understood in reference to the divine cosmic order, and was susceptible to influences even from outside its body, including spirits and demons, in modernity it turned into a self-determined entity which is mainly characterized by intellect and reason, and which is shielded against the penetration of external forces. To be a full human being now includes being aware of one's inner feelings, motives, and desires and acting according to them. All this is elaborated more or less in abstraction from the way the world is which we observe. Charles Taylor speaks of a 'buffered self' which is not part of physical reality, but realizes itself and is the creator of its own authentic view on reality (Taylor 2007). The objectified, neutral world of science is seen as the confirmation of the importance and the autonomy of the inner self which itself is the source of knowledge even of reality in a third-person perspective. Taylor identifies three interrelated trends in modernity:

The first is the picture of the subject as ideally disengaged, that is, as free and rational to the extent that he has fully distinguished himself from the natural and social worlds, so that his identity is no longer to be defined in terms of what lies outside him in these worlds. The second, which flows from this, is a punctual view of the self, ideally ready as free and rational to treat these worlds – and even some of the features of his own character – instrumentally, as subject to change and reorganizing in order the better to secure the welfare of himself and others. The third is the social consequence of the first two: an atomistic construal of society as constituted by, or ultimately to be explained in terms of, individual purposes (Taylor 1997, 7).

In another, more emphatic sense than in the sciences, reality in the personal and cultural sphere was understood as that which realizes existence. Reality is not only that which resists arbitrary conceptualization, but also that which brings about all the rich forms of life. It constitutes the interrelated network of beings each of which is, at the same time, an individual result of and productive force within reality[2]. The modern first-person perspec-

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2   This aspect of reality was not foreign to traditional philosophy. On the contrary, it was of utmost importance in, for example, Aristotelian philosophy. Aristotle's concept of an actual individual is based on the notion of its intrinsic 'energy' of self-realization (*energeia*, in Latin usually translated as *actus* or *actualitas*). For German philosophy, 18th century philosopher Christian Wolff coined the term '*Wirklichkeit*' as translation of *existentia* or *actualitas*. It refers to the fact that everything which is real is real as part of a network of cause and effect through which it is brought into existence and on

tive doesn't primarily refer to reality as that with which we are confronted, but that out of which we live, in which we move, and have our being. It can even be considered to be the more comprehensive perspective since it is also the perspective we take if we rationally reflect on the ways in which we scientifically refer to reality. In the history of philosophy, this is known as the transcendental turn (Gardner and Grist 2015). To take the transcendental turn is not to endorse any of Kant's specific teachings, but to accept that the Copernican revolution announced in the Preface of the *Critique of Pure Reason* is of utmost importance for any philosophy, namely that not the nature of physical reality directly determines our perception of it, but that the form of our perception of nature deeply influences the ways in which alone we can have understanding and clear and distinct knowledge of it. And this perspective is characterized by basic forms of self-reflexive modes of thinking. Self-reflection in the first-person perspective is a distinctive mode of rationality. It is irreducible to objective reality, and in the end it is what we are.

If again we ask for the meaning of contingency, now in a first-person perspective, human freedom and human free decisions emerge as the essential sources of contingency. It is part of our phenomenal self-awareness that we are able to decide between different options, and that it is our choice which makes the difference between what actually happens and what only might have been. Rational reflection as well as intuitive or unconscious decisions appear to be contingent insofar as their outcome depends on these mental processes alone and isn't determined before they take place. However, the debate about human freedom and its range revolves around the question whether or not mental occurrences are in fact dependent on determinate processes like neural activity, although we experience them as independent from within a first-person perspective. Many scientific naturalists would subscribe to the view that experiences of contingent decision-making are actually epiphenomenal by-products of neural processes which are in fact fully determined. The structures of our brains are the result of genetic dispo-

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which it has impact (in German, '*Wirkung*') as an active source of agency. Although he does not make use of Leibniz' idea of monads as the fundamental unities of being, he draws on the idea that real entities are sources of force so that they, in contrast to Leibniz' monads, interact and have real dynamic influence on each other. In later Spinozist thinking, this aspect of reality could be identified with God, who was understood as the "pure principle of reality [*Würklichkeit*] in everything real" (according to Jacobi, cf. Scholz 1916, 101), so that God becomes the power of being which makes everything real. In a pantheistic perspective, God is the operative principle within reality, while God as such, without creation, has no reality. God can only realize God's own being by ways of unfolding through infinite forms of individuals, so that reality is the realization and self-manifestation of the divine.

sitions in combination with past experiences, and our brains determine our ways of thinking. Not all brain processes, however, rise to the level of consciousness, so that we cannot fully penetrate the formation of our choices; and thus they appear to us as decisions solely determined by an independent self.

Transcendental philosophers, however, would reverse the argument and claim that our inner self-awareness in a first-person perspective is ontologically fundamental, while our reconstructions of 'objective' experience are secondary modes of reflection with limited validity. For Kant, reality in a first-person perspective is not an *addendum* to a third-person perspective, nor does it depend on reality as we investigate it from that perspective. Rather, it is the other way around: Our scientific investigations depend on human rationality and are but secondary observational modes. But also many empiricist philosophies regard human moral freedom as a fundamental source of contingency. The concept of the 'Free Will Defence' as developed by Alvin Plantinga, for example, uses the idea of moral freedom to argue for the consistency of God's existence and factual moral evil. Human moral decisions are a source of contingency which even an omnipotent and omniscient creator God could not avoid other than by destroying freedom. In a first-person perspective, we can conclude, human freedom appears as the most eminent and inevitable source of contingency within a world which otherwise might be fully determined by natural relations of cause and effect, but the ways in which both realms of reality belong together become obscured.

What is at stake from within a first-person perspective is the determination of the scope and the degrees of freedom and self-determination, and thus a realistic concept of the contingency of human self-determination, in relation to objectified reality in a third-person perspective. How does the inner reality of human consciousness relate to the external world? It was the Cartesian fallacy to infer from the fact that we can think whatever we please to the fact that thinking is not bound to the material, physical world. It does not follow from the capacity for abstract thinking that thinking functions detached from body and physical reality. Modern science and many strands of modern thinking have pointed to the fact that human minds, with their richness of feeling, experience, reasoning, and thinking, are 'embodied' realities. Consciousness is neurally embodied, and its functionality is deeply linked with bodily states. However, we cannot determine 'inner facts' as we can determine the factual behaviour of entities within a third-person perspective. As mentioned above, we only learn to distinguish between ourselves and our environment by being confronted with reality. This distinc-

tion also leads to the development of an inner world of intentions, concerns, feelings, and emotions, and to the common conceptualization of sense-qualities. In the end, neither the transcendental distinction between reality as such and phenomenal reality, nor any other view which simply claims the co-existence of third- and first-person perspectives, with the latter being able to execute contingent decisions, seems satisfying or convincing. Our experience in a first-person perspective, our feelings, intuitions, and emotions, but also our rational reasoning and deliberate decision-making, are deeply immersed in and irreducibly intertwined with reality in third-person perspectives.

c) Third- and First-person Perspectives Recombined

Both third- and first-person perspectives tend towards developing totalitarian views on reality. First-person accounts can refer to the fact that everything, including science, is but a product of our mind. In a third-person perspective, everything including our own minds owes its existence to objective reality. Our minds are but functions of our neural and bodily states and our inner, first-person perspectives have been developed as cognitive tools to enhance human fitness in an evolutionary struggle for survival. That we think the way we think is a result of biological history which shaped our minds according to the challenges of coming to terms with reality.

In the eyes of many, there is a lot that speaks in favour of this view. Humans as living beings inhabit the world of physical entities and are subject to scientific investigation. Nothing in our biology and in our brains indicates that we are exempt from the objective laws of nature. Subjectivity at least supervenes on physical processes. Consciousness, mind, language, and other cognitive functions come in degrees. They become dysfunctional when the body, especially the brain, gets damaged, and they apparently disappear when an organism dies. Thus, the first-person perspective seems to be totally dependent on objectively identifiable processes. Sense qualities like colours, emotional states like feelings, and conscious states like volitions seem to be nothing but secondary qualities which add 'flavour' to reality but are not constitutive of it.

However, there is also a lot speaking against this view. Functionality apparently does not require consciousness. A first-person perspective is not necessary to allow for cognitive reasoning; an unconscious, intelligent problem-solver would do. And if zest for life, conscious reasoning, and volition have no causal effect, then they seem just a non-functional addition. Such a view does not explain why we live the way we do, but rather explains

it away. Thomas Nagel has repeatedly argued against a purely materialist understanding of nature by referring to the opaqueness of the subjective character of experience: The subjective character of experience

is not captured by any of the familiar, recently devised reductive analyses of the mental, for all of them are logically compatible with its absence. It is not analyzable in terms of any explanatory system of functional states, or intentional states, since these could be ascribed to robots or automata that behaved like people though they experienced nothing. It is not analyzable in terms of the causal role of experiences in relation to typical human behavior – for similar reasons (Nagel 1974, 436–37).

By and large, sciences and scientists in modernity were aware of the split between, to state it briefly, mind and matter and of the unmet challenges which this gap implies[3]. The challenge is how to spell out the relation between both perspectives. Cartesians have developed dualistic ontologies, sometimes opted for even today[4]. Others try to integrate the first-person perspective into a scientific, objective view, thus actually reducing it to information processing, to a cognitive tool developed in order to increase evolutionary fitness. Again others try to resolve the distinction from within a first-person perspective. Trivial forms of radical constructivism, for example, understand any form of knowledge including scientific research as arbitrary processes of constructing knowledge. But neither mindless physicalism nor unnatural idealism can do justice to reality in all its aspects. Neither does the human mind simply 'invent' reality, nor is the human mind an ephemeral functional by-product of nature.

This is also reflected in certain developments in philosophy and in science which work towards mediating views. Nancey Murphy has identified three major shifts in late-modern philosophical thinking (Murphy 1997): a shift from Foundationalism to Holism (e. g., Thomas Kuhn; Willard Van Orman Quine); a shift from reference to use (e. g., John Austin and speech act theorists); and the rejection of atomist individualism (e. g., Alasdair MacIntyre). There are analogous developments in science and scientific epistemology which move towards bridging the categorical divide between third-person and first-person accounts. In the beginning of the 20th century, quantum theory has reminded physics of the fact that scientific reality is an interplay between physical phenomena and their observation/measurement. Niels Bohr saw this as yet another example where the "'objectivity' of physical

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3   In this respect, I find Thomas Nagel's otherwise brilliant book *Mind and Cosmos* (Nagel 2012) too simplistic when it ascribes materialist reductionism to standard physico-chemical world-views.

4   E. g., Scott R. Smith (Smith 2012) in challenging naturalism, but avoiding postmodernism (in a broad sense), argues for a robust substance dualism.

observations becomes particularly suited to emphasize the subjective character of all experience" (Bohr 1961, 1), thus pointing "to the general difficulty in the formation of human ideas, inherent in the distinction between subject and object" (91). Our categories of brick-like matter moving around on fixed trajectories in space and time proved inappropriate at certain levels of reality. Another whole bundle of theories and systematic notions have been developed to bridge the gap, like system theories and theories of complexity (cf., e.g., Gregersen 2003, and the work of Stuart Kauffman 1996). We cannot go into these theories here, although they are of the utmost importance for any reflection on the relation between scientific method and phenomena of complex reality, like life and intentionality[5]. Rather, I want to call attention to a third perspective on reality, a way of understanding reality as essentially participatory, which focusses on the social and communicative aspects of reality or, so to speak, on second-person perspectives and relations. My proposal is that only if we understand third- and first-person perspectives as being intertwined with categories of second-person relations, we will be in a position to develop a differentiated and complex understanding of reality as well as of contingency as one of its central features (see also Evers 2014).

d) Reality in a Perspective of Second-person Relations

To see reality from within second-person relations is to understand reality not from a perspective of observation, nor from a perspective of self-reflection, but from a perspective of participation. Studies on the development of human cognitive skills have shown the importance of social cognition, social learning, communication, and language, and it is only due to these preconditions that perspectives on objective reality in contrast to self-reflective consciousness can emerge. While more or less all characteristics of human beings have been predisposed in our primate ancestors, it is the development of sociality, language, and culture which makes human beings different. However, humans are not primates plus additional cognitive, social, and cultural modules. The human 'form of life' (in the Wittgensteinian sense, cf. Wittgenstein [1953] 1986, §§ 19; 23; 241) is fundamentally shaped by communicative culture. Human beings become what they are by participating in shared activity, and they begin to develop meaningful perspectives on

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5   For a similar attempt, referring to both Schelling's 'Objective Idealism' and Peirce's 'Evolutionary Metaphysics,' see Deuser (Deuser 2014, 101–21). Cf. also the 2015 volume of the ESSSAT Yearbook (Evers et al. 2015).

reality through interaction. We become human by being introduced into human ways of life.

On a fundamental level, these considerations imply that humans are not 'Brains in a Vat' (Putnam 1981a), but that *embodiment* is an essential bridging principle between the development of personal identity and the concept of a public outside world. Human cognition depends on being connected with the body and its sensorimotor capacities, and "these individual sensorimotor capacities are themselves embedded in a more encompassing biological, psychological and cultural context" (Varela, Thompson, and Rosch 1991, 173). French phenomenologist Maurice Merleau-Ponty speaks of intercorporeity (*intercorporéité*, see Merleau-Ponty [1964] 1994, 185), or bodily intersubjectivity, when referring to the fact that human beings not only observe the other's gestures and facial expressions and then infer from these observations the communicative intentions of the other, but that human beings share and literally feel bodily states through bodily resonance[6]. Thus, already dyadic communicative relations lead to emergent properties of mutually coordinated behaviour.

But it is important for the specifically human structure of communication that dyadic relations of resonance develop into triadic relations and then into comprehensive social perspectives, including the development of world-views and moral obligations. This process is mediated by language, but rests on deeper foundations. Among others, American developmental psychologist Michael Tomasello has pointed to the fact that human beings develop forms of behaviour which he describes as triadic situations of *joint attention* and *shared intentionality*: Two individuals direct their intentions to a third object, and thus jointly turn towards it in a communicative situation. Even pre-lingual infants at the age of nine months start to engage with others while referring to external objects, and try to direct the other's attention to situations and objects by declarative gestures. In triadic situations, human beings share goals and are intentionally directed towards objects and situations to which they know that the other is also attending; and both know about each other's knowing this. Thus, joint attention develops into shared intentionality and, in the end, into linguistic communication which adds the mutual sharing of perspectives expressed through contrasting linguistic symbols. And there is also an emotional and motivational side to this human form of cooperation. Communicative acts are driven by the emotional engagement of those involved, and human beings are usually very

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6   Cf. Mühling 2014 for an extensive discussion of the significance of resonances in a theological perspective.

good at inferring which intentions and focuses persons have with whom they cooperate. This communicative structure is enforced by mutual obligations of helping, sharing, and basic notions of fairness, which to a large extend are cultural invariants. In this sense, humanity is part of the natural and necessary environment for human beings.

From within second-person relations, rationality must be understood as a common human endeavour in which human understanding is receptive, responsive, and creative at the same time. It is neither just representational, nor just self-reflective and constructive, but basically communicative. This perspective is neither the perspective of representational observation nor the perspective of symbolic self-reference, but the perspective of active participation. Thus, reality brings itself to bear as a task, as a calling, and as a realm of communion and communication. Rationality, in this perspective, is embedded into a network of call and response in which we receive our existence as a gift as well as a task.

Thus, second-person perspectives are neither neutral nor self-assured, but always prone to irritation, provocation and in need of reassured self-confidence. They are always positional and often precarious, especially with regard to *trust*, and thus they come in different modes of confidence, in either more *critical* or more *affirmative* attitudes. On the affirmative side, I see the late Wittgenstein who understands philosophy mainly as therapy, which in the end "leaves everything as it is" (Wittgenstein [1953] 1986, § 124). On the critical side, we find philosophies like post-structuralism and critical theory, which reflect critically on the relation between linguistic categories and socio-political reality. Both Wittgensteinian and post-structuralist philosophies reject the idea of theory in the form of a comprehensive system, be it in the form of a theory of everything or in the form of universal, uniform rationality. But while Wittgenstein tries to invest basic trust into the communicative power of existing life-forms, at least pointing towards the threshold of religious belief, post-structuralists promote a fundamentally critical attitude of de-constructing meanings and unquestioned categories by which they try to unmask or interrupt discursive reinforcements of power, thus at least pointing to the possibility of prophetic critique.

In any case, reflective second-person perspectives process the awareness of the boundaries and the contingency of all understanding, including their own. In a third-person perspective, reality disintegrates into the dichotomy of chance and necessity, so that meaningful notions of contingency and freedom disappear. In a first-person perspective, freedom is transformed into an illusory absolute 'freedom' of insulated self-determination. For Kant, for example, "freedom" is "a faculty of the spontaneous origination of a state;

the causality of which, therefore, is not subordinated to another cause determining it in time" (Kant [1787] 1855, 330). In second-person perspectives, freedom is an emergent property which is communicated, but not made or simply presupposed. In such perspectives, contingency is neither chance nor is it absolute self-determination, but it becomes a category of relational freedom in response to the challenges and potentialities of reality. Thus it puts third- and first-person perspectives into place as helpful second order perspectives, which contribute to our ways of making sense within participatory reality. Objective scientific views on reality as well as conceptions of the self are interrelated and may change in the course of cultural history. Objective views on reality are not as value-free as their detached character in a third-person perspective suggests, because they are shaped by our means and methods of dealing with reality and expressing it. If we take second-person relations into account, we can see the value of scientific theories like those of open systems, embodied cognition, and the like, which open third-person perspectives towards communicative reality. And we understand that human beings are not as self-owning and autonomous as some first-person perspectives claim, because we are embodied and embedded into communicative reality. Central notions of human existence like love, faith, and freedom are not simple properties, but contingent communicative occurrences which emerge alongside reality as a creative and challenging process of call and response.

4. Theological Conclusions

We have underlined the immense significance of views on reality which take participation and involvement in reality seriously. We have roughly filed those views under the category of second-person relations comprising bodily, social, and cultural levels. I wish to conclude with some remarks on consequences for the dialogue between science and religion, with special reference to the issue of divine action in a Christian perspective. There are cognitive claims which can be derived from the perspective of faith in the Creator God. However, faith does not rest on these claims, but inspires them and uses them to express itself. The irreducibility of the second person approach, which is deeply shaped by cultural-linguistic constraints and specifications, but which also stands for the fundamental responsiveness and creative receptiveness of human beings, implies that different people with different religious and other basic assumptions will view the world differently. I argue for a comprehensive view of reality in which a Christian

perspective of contingent creation makes sense, but is not without alternatives. We should look out for frameworks of understanding in which we can describe, understand and discuss the complexity of reality and the pluralism of world-views in a constructive manner, and thus overcome the view that the only alternative to the conclusive demonstration of the objective superiority of an explanation is subjective arbitrariness. As theists and Christian theologians, we can argue for a view inspired by and based on the disclosure of the human-divine relation through Jesus Christ and then, in our present, contingent historical situation, wait where the spirit might lead us. Contingency in this overall, hermeneutical perspective refers not to the explanatory necessity of a non-contingent ground of being, but to the openness and relativity of human understanding.

To claim that God is the creator and divine source of reality is to claim that God is active in everything that is and everything that happens. That does not imply that God intends or wilfully brings about everything that is. On the contrary, in a Christian perspective referring to God as love and grace, much of what happens is not positively willed by God, but rather not hindered or condoned. Thus, God's permanent and all-pervasive activity implies that God acts in different modes and in pluriform ways, but not by strictly determining and intentionally producing everything which is the case. In a similar intention to differentiate between different modes of divine action, Michael Welker dismisses any traditional "theism of abstract omnipotence and ubiquity" which understands creation exclusively within a "concept of pure production and causation" (Welker 1999, 10). Instead, he wants to make use of biblical notions of interaction between Creator and creation. In his view, biblical texts of creation refer to a manifold of mutual interdependencies between Creator and creation and describe "in a differentiated way God's reacting through perception and evaluation. They describe God intervening in what is already created, intervening for the purpose of further specification" (9).

Within the framework that we have developed, a threefold differentiation between different levels or modes of divine activity[7] seems appropriate. It comes in different modes for two reasons: God is always active in relation to and in continuation of reality, and all of God's actions are connected with other divine actions. Any view that sees divine activity as a concatenation of discontinuous and solitary *ad hoc* interventions is mistaken. God is respon-

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7 Ingolf Dalferth distinguishes between activity as a universal property and actions as particulars (see Dalferth 2006, 141). Actions can be generalized and categorized by being tokens of different types of action, while within God's activity different modes can be distinguished.

sive "to the changing situations of created agency by continuing the corresponding divine actions differently relative to the new situation of created agency" (Dalferth 2006, 146). God relates to others without ceasing to relate to God-self, and in this way God's love, which is God's being and activity, becomes creative. This is why Christians conceive God as Trinitarian being: God loves everything by bringing it into being (as Father), by inspiring it to explore more and more possibilities and opportunities through individualization and socialization (as Spirit), and by sharing and transforming its fate (as Son). Thus, God is active in manifold ways "without ignoring or impairing the relative autonomy of creation" (150). Neither is God a 'God of the gaps' in the sense that God only acts in the gaps of creation, nor is God a creator of gaps which are then filled by the acts of human freedom, but in differentiated ways God is related to everything in creation.

This is reflected in three different modes of activity, which I relate to the three perspectives on or aspects of reality. God as Father is active in a timeless manner in natural processes and thus provides the reliable and predictable structures of inanimate reality. Related to our present concepts of physical reality, this applies to quantum field theory, to the physics of elementary particles, to the structure of space, time, and gravitation in relativistic physics, but in the end to all theories developing and making use of fundamental laws of nature, including chemistry, biology and so forth. God's activity in this respect is undifferentiated, because it is identical everywhere. That is also the reason why God as continuously active cannot be identified within these processes. Within reality, from a third-person perspective God cannot be discerned as being involved in one event more than in another, or as being more faithful to or more active rather in this physical aspect (like quantum events or chaotic attractors) than in another. And from a theist perspective, God is not active in processes of low probability rather than in those of precise predictability. God is veiled behind the totality of the objective, public structures of nature, which splits into necessary and contingent parts. In a theological interpretation, reality from a third-person perspective at the same time represents the reliability of creation and its openness for novelty and emergent complexity. Both can be understood as the creator's choice in favour of creation. However, a conclusive argument for the necessity of a theistic interpretation of nature does not follow. On the contrary, such a view is always challenged by the dark sides of creation, by what the tradition calls natural evil, since the laws of nature as well as contingent events and their concatenations also lead to catastrophes, destruction, and the like.

But God is active also as the creative force within creation, as the Spirit, which drives creation through drawing its creatures into independent, rela-

tively self-determined existence. Reality as a process of diversification of life and consciousness is fuelled by God's spirit. Here God's activity is pluriform and manifold. It brings about the richness of creation and life-forms. And while life in creation emerges and becomes more diversified in complexity and potentiality, but also becomes more individual within developing ecological networks and social life-forms, God's activity takes on new forms and becomes diversified, too. God's activity within reality perceived in a first-person perspective is too colourful and too diverse to be conceptualized in the form of necessary laws. Still, most religions identify certain forms of the spirit (including certain states of consciousness) as revelatory acts of God. They also identify certain forms of manifest beauty and life-forms as holy, and thus as events and constellations which point towards an inward divine force in creation, which in all its plurality brings about contingent realisations of beings responsive to each other and to the spirit of creation. In this respect, God's activity takes on different forms and qualities at each moment and at every instance in which God combines God's activity with the creatures' own actions. God's spirit continuously accommodates to and challenges particular states, processes, and beings of creation in new ways. In this respect, contingency marks the space of freedom for individual selves so that they begin to strive for existence, to develop volition and concerns as well as zest for life. In a theological interpretation, this form of contingency stands for the relative autonomy which the creator grants to creatures, so that they don't follow rigid programmes, but live their lives as self-centred beings and by the grace and inspiration of God's spirit. Again, this is not free from ambiguity and has a dark side to it. Contingency, in this respect, also gives rise to pain, to being confronted with a refusal of opportunities and, finally, the death of the individual.

Finally, God is also active in creation as Son by participating in the fate of creatures, and thus transforming reality from within by way of revealing communication (Christ as the Word) and reconciling communion (the Christian community as the body of Christ). In a Christian perspective, the significance of the incarnation as an eminent act of God in His communication with human beings can only be understood if we take second-person categories into account. The incarnation is no supernatural, ontological miracle, but it is also inadequate to understand the story of Jesus Christ simply as an occasion for human self-reflection. Jesus Christ as God incarnate refers to a concrete story by means of which we can learn about God's ever-active and liberating grace, and about our situation of hate and violence in the presence of God's grace. The story of Christ expands the dyadic God-Human relationship into a triad of mutual communication. It does this in

dialectical ways, by beneficial interruption and disturbance of the ordinary course of creation, as well as by positive reaffirmation of the significance of love and reconciliation. Jesus Christ in His teaching does not define God, or provide extra information about God, but reveals God's contingent movement towards human beings, as well as He moves us to participate in God's movement. We realize how God is moved by love, so that we only have to receive it, and thus we are liberated from immovability and directed towards the other and thus towards God.

We have pointed to the fact that second-person relations are sensitive to the issue of trust. They cannot increase grades of security with regard to the natural world, as scientific and technical means do if they are successful. They cannot base confidence on self-confidence in an idealized first-person perspective. However, they articulate and possibly communicate trust, love and recognition as basic relational needs for human existence within finite creation. From a Christian perspective which relates to Jesus Christ as representing God's salvific activity, the relation between Creator and creation is opened towards transformation within second-person relations. The story of Jesus Christ allows for a differentiated identification of pain and evil and realistic trust and participation in God's transforming love. The cross of Christ stands not only for the sins of humanity (and thus cannot be reduced to a sacrifice to calm the wrath of an angry God), but also for the passion of God for the life of God's creatures. Jürgen Moltmann speaks of "God's delight and God's pain" (see the quotations in Volf 1996, 65) as the two foundations of a Christian theology of the cross, and I cannot see how we can deal with the contingency of creation from a Christian perspective without employing a form of a differentiation within God's relation to creation other than that of starting and driving a linear process toward its fulfilment. It is the resurrection of Jesus Christ, resulting in the formation of the community of believers, which reveals God's victory over the ambiguities of existence. In this respect, contingency opens the realm of communication, communion, and sociality, and points towards God's activity in overcoming the dark aspects of creation, not by eliminating them, but by transforming them from within and by letting human beings participate in God's own eternal life.

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