

Wolfgang Wildgen (University of Bremen, Germany) December 2021

Semiotics of Religion. A Dynamic View¹

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Abstract

God/gods and other transcendent entities like angels, devils, soul, and life after death seem to pose major problems to scientific semiotics because an objective reference (the dynamic object in Peirce’s terms) is inaccessible. This paper proposes a dynamic concept of the sign-triad based on variation and stability. The triadic sign schema of Peirce is generalized to a circular force field. The instability of the field leads to a “degeneration” of the attractor, in which the “dynamic reference” to God/gods is gradually weakened. Beyond forces that humans may be aware of, there exist global gradients or force fields on a geographical/social and a historical scale. They form the background of religious morphogenesis and conscious planning. This leads to the question of truth in religion and historical assimilation. At the

¹ The general concept of a semiotics of religion is described in my monograph in German: *Mythos und Religion. Semiotik des Transzendenten*, 2021.

micro-level myth and religions exhibit what Claude Lévi-Strauss calls “bricolage”, the contrary of structural coherence and unit; at a macro-level, principles of self-organization operate that are opaque to human insight, e.g. geographic/social distribution and the interference of many different value systems in large societies. The consequences for scientific semiotics of religion and its methodology are addressed in the conclusion of the paper.

1. Introduction:

The central questions of religion about the existence of transcendent entities like God, angels, heaven, hell, etc. cannot be met directly. Nevertheless, one does not need to search for a rescue in relativistic or agnostic attitudes, where semiosis and communication with signs are understood as self-contained, only obedient to immanent “laws” of coherence or simplicity. Such a relativistic semiotic theory excludes any link to objective knowledge about the world; human thinking becomes irrelevant. The program of semiotics advocated in this article can be called realistic. As it introduces concepts and modelling practices of the natural sciences it has been called “semio-physics “ by René Thom (1988). This means that the instruments of modern mathematics applied to physics and neighboring natural sciences like chemistry, biology, and cognitive science are used as conceptual tools. They define a specific scientific orientation in semiotics and other disciplines in the humanities.

2. The relevance of the semiotic dimension for religion

The central question in the context of religion seems at first to be an ontological one: Does God exist? Are there angels, devils, etc.? Is there life after death? Is there a Last Judgment or comparable compensation for the injustices in the world, for the evil?

In everyday life or scientific practice one would answer to questions: “Are there?” by making a deictic, i.e. pointing, reference. Does person X exist (here, now)? Yes, she's sitting back there; yes, she lives at number 15, London square, no, she passed away last year. Does element 100 exist? Yes, it was discovered when an American hydrogen bomb was tested in 1952, chemical properties are given; it has the name Fermium; Are there any exoplanets? Yes, in the meantime 123 exoplanets have been detected, astronomical images are enclosed. If a deictic reference is not sufficient, the identity of the person referred to must be proven (by his or her identity card, by witnesses, by genetic analysis, etc.). In all of these procedures, semiotic processes play a role: the assignment of proper names, the characterization employing properties, and their interpretation (e.g. by measuring methods, diagrams, and their interpretation). Between direct observation and the decision of the ontological question,

instruments or complex, computer-aided measurements, may be inserted, e.g. image processes, computer-tomography, statistics, etc. Their interpretation and the validation of conclusions drawn on this basis require a large number of sign-bound processes. The ontology is therefore dependent on a phenomenal level on which our perception functions, and a level of inference that is mostly language- and/or technology-dependent. Its discursive elaboration requires specific communities of communication and their rules, in the case of language a lexicon and grammar. One can say that ontological questions can only be answered with the help of medial and symbolic links. The real “being” is not accessible, it remains opaque.

The question “Is there?” implies something like a border or a border area, a wall that separates the questioner from the world. Something else is just beyond the border. If, for example, a person has a certain range of motion and action, his/her range has a limit. Beyond that limit lies that which has not yet been touched or understood.² The concept of sign presupposes this difference/distance. In addition, there is the temptation, the will, the mission, to go beyond this limit; to appropriate this unknown area. The transgression of the limit can imply conflict or danger if other humans or biological beings have already occupied the area. In the case of religion, characteristic conflicts show up in those communities which have found their proper access to the off-limits area and are confronted with different access found by other individuals or communities. The landscape of modern religions and their struggle for dominance demonstrate these conflicts. This scenario is, however, neither restricted to religions nor humans.

Chimpanzees are known to patrol along the border, which is not marked objectively, and to attack and kill individual strangers intruding or just approaching their area. In this sense, religious border conflicts are an archaic, quasi-pre-human phenomenon. Globally, i.e. when more and more boundaries are drawn, the area, e.g. the geographical space, is further and further subdivided. The subdivision of occupied areas can be seen in the landscape, on the map, or from an airplane flying above inhabited land. This view on a subdivided landscape was the guiding metaphor of lexical field theories in the 1920s. The entities of a lexical field, e.g., the colors, names of plants and animals, the social ranks look like boundaries visible on an agricultural surface subdivided into fields, ackers, and woods.³ From this, the French structuralism in the style of Greimas and his school of structuralism concluded that the

² It is beyond the subject's zone, at least beyond the central point of this zone. Parts of one's own body can become objects of perception or action; however, they have the special status of “embodiment” (see Husserl's phenomenology and cognitive semantics discussed in Wildgen, 2008a: Chapter 3).

³ For the history of semantic field theory, cf. Wildgen (2000).

semiotic system consisted only of borders (i.e. it had a purely immanent structure). The natural space on which the boundary is inscribed is considered just as irrelevant as the substance of what is separated by the boundaries. Space is just a convenient metaphor, an instrument of thinking, i.e., basically “arbitrary” (cf. Saussure’s “arbitraire du signe”). If we remember the border conflicts among herds of chimpanzees, the very similar constant fights between neighboring ethnic groups in the highlands of New Guinea or the constant wars and as the consequences of them, the re-parceling in Europe since the end of the Roman Empire, this vision is overly optimistic or naive-pacifistic. Even in the field of symbolic forms, i.e. in languages, visual designs and traditions, musical styles, technological and medical achievements confrontations happen. These forms may compete for acceptance and dominance in a geographical or social area. Conflicts must be managed and their outcome shapes the reality in which we live.

If we consider the boundaries in the social world, for example in the family, in the clan, in society, or the boundaries between humans and animals or humans and nature, then the ubiquitous concept of border inevitably leads to the question of the ultimate borders, i.e. to questions of religion, because with the border, the unknown beyond the border, i.e. the “transcendent” in its immediate sense, imposes itself. The concept of borderline, of border conflicts, was exemplarily formulated in catastrophe theory,⁴ and it is the pivot of dynamic semiotics. The dynamic analysis does not start from an Aristotelian world statically pre-structured in genres, nor a universe (according to Leibniz) standing still in pre-established harmony. It emphasizes movement, change, instabilities, and the strategies to achieve (temporary) stability. This is a paradigm shift through which the question of religion gains a new quality and enables new answers.

If everyday questions about existence and difference are problematic, how much more is that the case with questions about the existence of religious entities and their differentiation from other entities that go beyond everyday experience? One can therefore doubt: Are there any reliable semiotic procedures with which ontological questions can be answered in the case of religious entities. Already the characterization as “transcendent”, i.e. going beyond what can be experienced and evaluated in everyday life, suggests a negative answer. But how can we explain that speaking of and even thinking about the transcendent is practiced in all societies, by a majority of humans and that this type of thinking and practice works to their satisfaction?

⁴ Major contributions (in English) to semiotics using the concepts of catastrophe theory were published in Wildgen(1982), Per Aage Brandt (1995) and Petitot (2004; translated from a monograph in French published in 1985).

Is there a special sign language for these cases; are there special conditions for success, and what are the consequences? Does this speaking and thinking result in certainty when referring to the transcendent, can reliable conclusions, even proofs, exist in this area?

A Christian believer could argue that certain informants have experienced the transcendent, in the shape of Christ. His apostles met, saw, and talked to Jesus after his resurrection. The incredulous Thomas touched his wounds. Jesus or Mary appeared to numerous people (e.g. Mary is said to have appeared to fourteen-year-old Bernadette Soubirous in Lourdes in 1858). Many mystics made contact with the divine in their exaltation, etc. For those involved in these experiences of the transcendent, everything seems clear. But, everyone else, and that is the vast majority, must believe them. But this too is commonplace. There is a lot of content circulating in the media where we either do not know the authors or the witnesses or cannot judge their credibility. Nevertheless, this content spreads easily and very effectively on social networks. Everyday communication does not ask for proofs like those necessary for condemnation in court or the acceptance of hypotheses in the exact sciences. Where are the boundaries between what you think and believe in everyday life, in the media, and finally in religion? This is a semiotic question and the problem of religion cannot be meaningfully dealt with without taking into account the problem of reference, mediation, expansion, and control of interpretation.

In summary, two things can be stated:

- Everyday language, as well as scientific knowledge, is only possible with the help of a medium of analysis, interpretation, and communication as an intersubjective process. The choice, design, and area-specific implementation of this medium is tied to the conditions of communicative success and is therefore subject to laws that are to be uncovered and modeled in semiotics understood as communication and media theory. The semiotic medium thus forms a condition of possibility for knowledge (to use a central epistemological concept of Kant).⁵
- This question arises especially in religious perception, knowledge, and communication about religion. Since the factual reference remains largely uncertain, the media level plays an even more important role than in everyday and scientific communication. Values and norms and the success of semiotic mediation determine the acceptance of beliefs. As soon as a stable consensus is reached, it is implemented in various ways in everyday practices and rituals. It receives secondary intersubjective validity insofar the implementation of religious belief in ritual, prayer, liturgical practices, and social bonds, fixed with their help can be perceived and enacted in the same fashion as everyday activities. In this practical implementation, religion finally becomes an immediate reality for believers and competes successfully with alternative realities, i.e. those contributed by the advance in the sciences.

⁵ This medium allows for a common space of perceptual distinctions and a metric on this space enabling the comparison of perceptual reactions; cf. section 8.

3. The religious sign and communication in a dynamic semiotics

The most general characteristic of any sign is that it relates to something other than itself. The *other* may also have the character of a sign, but it does not have to be. On the contrary, it is assumed that each sign ultimately (on the horizon of all references) fulfills an indexical function, i.e. refers to something that can be experienced, something that exists. This requirement is necessary for two reasons. First, the sign-behavior, e.g. language or a visual code must have emerged from something that existed before and did not itself have the character of a sign (cf. Peirce's triad of sign form – sign object – interpretant). Second, sign behavior is embedded in the ecology of human interaction with the environment. It must at least on many occasions have a real, physical, or biological effect.⁶

The signs used are not only singular signs (sign tokens) and their recurring type (sign types), but also sign strings or, in the case of visual and musical signs, sign fields, or sign bodies. Peirce had introduced a grid of basic distinctions for semiotics. We use this foundational work by Peirce systematically, but the basis of our theoretical considerations is given with the more recent developments since 1970, mainly in the work of René Thom on the morphodynamic of language and thought (cf. Wildgen, 1982, 1994, and 2010) and of Herman Haken on the synergetics of cognition and behavior (cf. Wildgen 1990, 1995, and 2005). Key terms are morphogenesis (Thom) and the self-organization of complex systems with the coordination of many subsystems (Haken). The morphogenesis of sign-systems concerns the emergence of categories in the perception of the world (categorical perception) on the background of visual, acoustic, tactile, olfactory, and other perceptual and behavioral continua. The sign forms (pictures, gestures, sound shapes, linguistic units) lead to complex sign systems, e.g. languages or other symbolic forms (in the sense of Cassirer). They have to coordinate different media (visual, acoustic, etc.) and select stable gestalts that can be socially shared (reproduced, memorized, and used for communication).

Cassirer has shown that there are decisive differences in the use of signs on the one hand between language and myth (in the broader sense also religion) and on the other hand between language and scientific thinking (especially in mathematical form). In the case of myth, particularly clear in magic, the cognitive distance between the form of the sign and the content of the sign is small, and it can even tend to be eliminated. This is the case, for example, when the demon is summoned by giving his name; he is practically tied to his name. In contrast, in mathematical calculations, the object reference is so abstract that some

⁶ Cf for a detailed analysis of myth, religion, and other global systems of creed and knowledge Wildgen (2021a).

mathematicians even consider it superfluous. Instead of a tripartite division of the symbolic forms, as suggested by Cassirer, it seems more appropriate to use a variety of gradations, ultimately a continuum and context-dependent demarcations. The “pro aliquo”, the “representative for” in Augustine's classical definition of signs can range from an identity between sign form and sign object (in the case of magic) to a possible but neither necessary nor sufficient relationship (in the case of mathematics). Peirce's specification of the object relationship as a scale from indexical > iconic > symbolic is a subdivision of this continuum, whereby the magic signs are primarily indexical and the mathematical signs are primarily symbolic. The iconic relationship fills the gap between the borders of the continuum in varying degrees.

In myth, it becomes particularly clear that the sign organization does not correspond to classical logical forms, that continua, between humans and animals, humans and God are assumed. There may be no logic of myth, in the sense of traditional logic, but there are rational forms of organization in the field of all symbolic forms. These systematic, law-governed processes are the primary object of the scientific study of sign behavior (semiotics). In addition, one should consider the complexity of additions, reorganizations, the interference with sign structures imported from other sources, etc.

4. The stability/instability of a system of religious signs and natural limits of religious semiosis

The sign-theoretical triad according to Peirce mentions *sign form* (representamen) - *sign object* (designated) - *interpretant* (thought, content, inner image). In the case of the religious sign, e.g., the concept of God, the sign object is God (or in a polytheistic religion a specific god or a family, a field of gods). The forms of signs ("representamen" in Peirce' terms) can be the name of the god, its descriptive elaboration through properties, the image of the god (as a pictorial representation, a sculpture, etc.), or its presence in a ritual, e.g. represented by masks or an actor, or a musical or gestural staging of the god. The notion of *interpretant* in Peirce's writings has many aspects. The *immediate* interpretant is the idea of the object in the mind of the sign user. Peirce calls it *degenerate* because it neglects the communication with another user and its effect on him/her.⁷ The *dynamic* interpretant considers the effect of the sign on another mind and considers the effect on this mind or a resultant action of the addressee of the sign. Peirce (1906/1993: 812f) mentions as an example the company commander who calls to

⁷ In solitary thinking or inner monologue a communicative act is only simulated; but it presupposes the normal usage of sign in social exchange.

his soldiers: "Present arms". The *immediate* interpretant is the will of the commander, i.e., his mental image of the meaning of the command. The *dynamic* interpretant is the effect of the commander in the soldiers, their (dependent) will to present arms and the action as the pragmatic consequence. It presupposes an established usage or rule, based on the obedience of the soldiers. This aspect is called the *final* interpretant.⁸ The example shows that the notion of interpretant is on another level of complexity than the basic duality of the object and the sign form. In the notion of interpretant, the mental meaning or image in the individual is completed by the other mind, the coordinated action based on social rules; it has a dialogic and a pragmatic dimension. In terms of Peirce, the duality of significant versus signified introduced by Saussure is the degenerate case of a full-fledged interpretant with its dialogic and pragmatic aspects. At the phenomenological level, in the world of the sign user, the semiotic process (semiosis) implies causes and forces. If God is the entity (object) referred to by the sign-form (representamen), e.g. the name of God, his visual or other representation, then the dynamic object of the sign, God, has created the world and in the world the believer. God is primarily the creator of everything that exists. He is simultaneously the Object and Sign, for instance, the World and the Word. He is the germ from which the dichotomy of object and sign unfolds. This aspect shows up in the beginning statement of the Gospel of John, verses 1 and 3:

"In the beginning was the Word, and the Word was with God, and the Word was God. [...] Through him all things were made; without him nothing was made that has been made."

But this notion of God is extremely abstract and if it meets a philosophical or theological demand it cannot satisfy the normal adherent of a religious creed. The believer prays to God and asks him a favor. Although a classical dictum says: "**God helps those who help themselves**"⁹, most believers who pray to God and attend religious services rather consider God, the saints, and other transcendent entities to help them in the same fashion as parents and friends are asked for help. They should have a real-world effect in favor of the prayer. This corresponds to the *dynamic* level of the interpretant of the sign God.

⁸ Peirce's trichotomy mirrors the Aristotelian classification of causes: *causa formalis*, *causa materialis*, *causa efficiens*, and *causa finalis*; where the *causa materialis* (Greek. *hyle*; originally the wood used to produce a form) is blended with the *causa efficiens*, the kinetic process (Greek. *κίνησις*).

⁹ Probably originated in classical Greek drama, it is widely accepted and also found in the Quran (13:11). It was criticized in Christian denominations that put God's grace to the fore.

From a *mental* perspective, the mind of the believer imagines God or a specific god, Mary or a Saint, and God knows everything on behalf of the world and the human being. The stable link between both is a kind of participation. The human being participates in the wisdom of God and God is in the mind of the believer. The relation, the force field is an *epistemic* one. Communication with signs presupposes both: the *dynamic* and the *epistemic* level (cf. for an elaboration of this issue Wildgen, 2021b).

In the Christian and Jewish Bible/Tanach, man is considered as the (reduced) picture of God but God can destroy mankind, as in the case of Flood, because it did not act as his picture should. If mankind is the picture of God, then it acts like the sign standing for the object (God). The parable about the prodigal son (Luke, 15. 11-32) tells us, that the son behaves badly but his father forgives him when he returns and repents his behavior. Thus the picture may deviate from the object it represents but it can also repair these deviations. In this case, God acts like a human person and not as an abstract force at the origin of the universe. This Janus-headed concept of God may be logically inconsistent but believers accept such inconsistencies, insofar as God is not strictly subjected to human logic.

The existential effect of a religious creed becomes obvious in religious conflicts. If the speech, the writing, or the religious action of a person contradicts the norms and standards of a religious community, he/she can be excluded, excommunicated, banned and this can mean starvation and finally death. In these cases, there exists a causal impact between religious creed and human life. In the inquisition process of the Roman church, the heretic should change his mind, revoke his false belief. Eventually, if he does not, his soul must be saved. Even on the stake 1600, Giordano Bruno was shown the cross and asked to revoke (cf. Wildgen 2011:156f). In Islam converting to another religion may be penalized by death. The death penalty for non-believers or the burning on the stake for heretics is the visible effect of God's force and thus a kind of proof of his existence. In normal cases, the Last Judgement would decide on the penalization of the believer but in this case everybody can experience the effect, be aware of the dynamic interpretant of God (in the sense of Peirce). For the non-believer the effect results rather from the religious institution (e.g. the committee of Inquisition and in the case of Bruno the final decision by Pope Clemens VIII). They claim to represent God (Jesus); his power would have been transmitted to the apostles and finally to the pope and his bishops. The interpretant of God is assumed to contain dynamic links, mainly psychosocial links, such as rules and conventions that allow for a transmission of causal effects originating in God and finally hitting the heretic. Given these effects, the dynamic

nature of God seems to be straightforward because the effect of religion asks for a cause. The assumption of God's existence can fill the causal gap.

The interpretant is the lawful, systematic correlation of the two poles: the object (of the sign) and the form of the sign (representamen). This correlation may be stable for some time, but in the sequence of sign usages, either by the same individual or in social exchange, i.e. with variable users, who are naturally different in their acquaintance with semiotic regularities, it tends naturally towards destabilization. Therefore, the instability of the interpretant is a natural process. Different routes to instability can be distinguished. Given a sign form, e.g. the word God, Jesus, Mary in Christianity or Jupiter, Mars, Venus, etc. in Roman polytheism, the reference cannot be secured objectively and for this reason, it can deviate progressively, lose its contours, be generalized or specialized. This deformation can affect one term of the duality object versus sign or both. Each singular usage of the sign is like a circular process around the center, the interpretant (I) and linking the positions of the object (O) and sign (Σ). In the deformations by usage (after a larger number of circuits) the circuit accumulates aberrations, diverges from the closed circuit. This is exemplified in

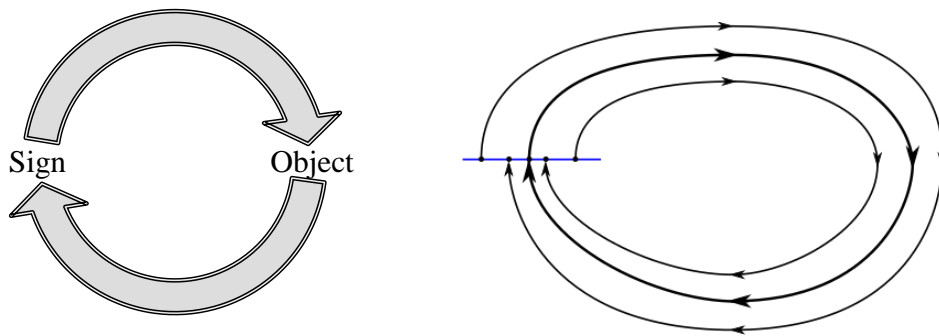


Figure 1

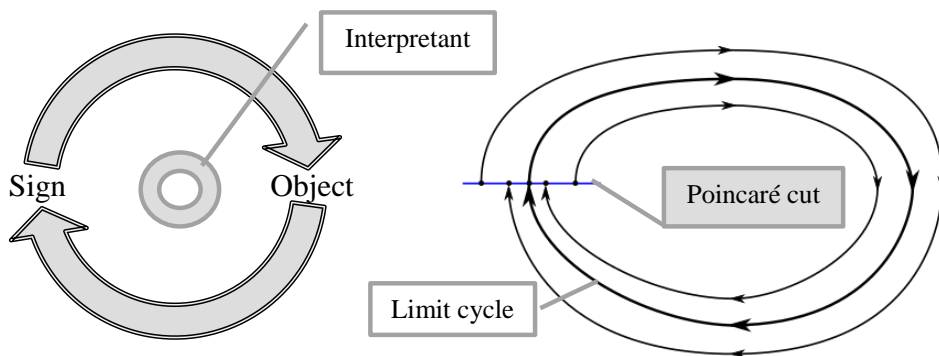


Figure 1 Semiotic circuit and a limit cycle with deviations inside or outside (they can approach the limit cycle or stride away from it)

The stability of a circular attractor can be lost if a (small) disturbance occurs each time the circle is traversed, i.e. the start and endpoint deviate from each other. In mathematics, one calls this process a "Poincaré cut" at the point of the (intended) meeting. The deviation can repeat itself and intensify such that finally, a spiral emerges from the circle.

Two cases must be distinguished:

- a. Instability of the reference (object, e.g. the objects God, Jesus, Mary, Jupiter, Venus)
- b. Instability of the sign form (linguistic, visual, haptic, etc., e.g. the names, pictures, sculptures of God, Jesus, Mary, Jupiter, Venus)

In the first case, two directions are possible. Either God (and in the same way the other entities) are generalized. Thus, God may be generalized to the creator of the universe, a universal spirit, or simply to Nature (cf. Spinoza's "Deus sive natura"). The second direction consists of progressive specifications. God approaches more and more a human agent, listens to the prayers, answers to them helps the believer. If the believer does not behave correctly or if his faith is insufficient, God can neglect or even punish him.

In the second case, the name or the visual representation can shift, become similar, or even identical with other names, visual representations linked to neighboring deities. In cultural contact the name may become ambiguous, designating different deities. The lexical field of religious entities gets blurred, traditional distinctions are abolished or new distinctions are added. The history of religions tells many stories in this respect. The instability of sign forms leads to unpredictable references.

Religious communities have developed strategies to prevent the instability of religious signs. One strategy consists in avoiding names of God; cf. the biblical name of God. YHWH (Hebraic יהוה) that was never pronounced overtly fearing a misuse. Statues and pictures of God were also forbidden. This led to the iconoclastic controversies in Judaism, Christianity, and Islam. The other major strategy consisted in normalizing, dogmatic regulation of all sign-based communications about religion. The canon of holy texts in the three "text-religions" follows this strategy. In parallel, all pictures, statues, dramatic representations are controlled (if not forbidden) by the religious institutions. The permanent threat of instability in religious communication triggers a wealth of dogmatic and even legal measures and sanctions with the hope that a breakdown of religious meanings can be avoided.

If the indexical function and with it the reference to something existent and controllable cannot be effectively guaranteed, the creeping instability of religious semiosis cannot be prevented. Religion tends to become self-referential. A bulk of fictive signs fills the mind of believers. This instability is not specific to religion. In everyday discourse, in literary cultures, and even in scientific discourse such destabilization and loss of referential security is a steady

companion of human communication and thinking. Therefore the instability of religious communication does not devalue religion or ask for an atheistic or agnostic position. But it indicates the limits of any discourse that misses a solid referential control, the objectivity of scientific semiosis. But even under the condition of rigid control of referential and semiotic objectivity the risk of instability, degradations, and sliding into the direction of meaninglessness cannot be permanently avoided (cf. a similar critic of the Vienna circle about the emptiness of traditional philosophical (focused on metaphysics)).

5. Attributes of God/gods and the instability of constructs with abstract attributes

For the sake of simplicity, I take monotheism as background. We have one object: God and correspondent signs in different modalities: the name of God, e.g., JHWH in the Jewish tradition, or a picture of Godfather or the Trinity in Christianity, Allah in the prayers of the followers of the prophet Mohamed. The attracting force between God and the world is given by causality. God has created the world and (in specific theologies) he regularly and spontaneously interferes with the world.¹⁰ God's occasional action also enables the transfer of mental attitudes, e.g., the human will, and its material effect in the world can follow God's will or be reluctant against it. On the epistemic level, God's all-knowing is the background of human knowledge, i.e., humans participate in God's knowledge of the world. The dynamic and the epistemic/mental effects of God establish two gradients (of attraction) which link God to the world *W* and the individual mind *M*. If only the first gradient, i.e., God's causing of the world is focused on, the position of God may be reduced to that of a first-mover (as in Aristotelean astrophysics) or to the identification of God with Nature (as in Spinoza's "Deus sive Natura"; God is nature). Deistic concepts also use such a reduction. If God is mainly an epistemic/mental force that allows humans to know the world, we arrive either at the mystic union with God in reflection and meditation or philosophically to the *daímōn* of Socrates, the last support of human rationality.

If God as a sign object is blended with its name, its picture, or sculpture, i.e., if the object (*O*) is confounded with the sign (Σ) then God can degenerate to a (wooden, golden) idol. It can be looked at, can be touched (even destroyed by adherents of another religion). If the religion is transmitted via holy texts, the name of God may be conserved but the content is changed, new attributes are associated. It may even be subdivided, as in the case of the Christian trinity. In the context of polytheism, a multitude or a family of gods can be reduced to fewer or only one

¹⁰ In the history of philosophy, the "occasionalism" of Nicolas Malebranche (1638-1715) has further developed this position.

(even to none as in classical Buddhism). The history of religions, their conflicts, and interferences demonstrate the rich field of diversification and reduction, augmentation and subtraction, explosion and implosion.

The *dynamic* object (cf. Peirce's term), i.e., the object perceived as real or controllable, becomes an object constructed only in the imagination, which in turn can be given a concrete form, e.g., as an artifact of a craftsman who makes the wooden sculpture of the god or in the biblical context the "golden calf". The mental content is changed accordingly. The believer no longer turns to the invisible God, but to the idol, which he can look at and touch. If the priests use this shift to their advantage in the rite and the believers do not (want to) perceive the shift, a deception occurs, because as the biblical critics of the idols correctly tell us, the idol is a human artifact and can therefore not satisfy the hopes on help and rescue (even, immortality in the afterworld). The investment of the idol with divine power in complicated rituals seems to be just a clever trick in this context, because the wood, the bronze, the gold remains purely material substance. This reasoning is rationally plausible. But it presupposes that the dynamic object, in the case of religion God, actually exists. If this is not the case, then the immediate object, in its concrete shape the idol, is identical to the dynamic object.

Now, it can be quite useful to construct such a phantasm as an object of religious fervor, since it can, for example, have a political and social effect asked for. Such a benign effect can be seen, for example, in the fact that the community of Israelites is held together by faith in the God of Israel, despite the worst trials over the millennia. Since the scriptures, laws, and rituals are largely preserved as sign-forms, the associated faith can be renewed again and again like a phoenix from the ashes. By reading the texts (again and again), an already lost faith can be revived. In Israel, even the biblical Hebrew was revived in Ivrit (יִרְבֵּעַ). Despite the expulsion of Jews from Palestine by the Romans, the religious community survived. The Christians persecuted in the Roman Empire could even achieve a dominant position after the tolerance of the Christian faith by emperor Constantine. After all, as a result of the colonial expansion of Christian states, it became the largest international religious community. Islam united the Arab tribes and enabled them to build a vast empire under the star of Allah. One could deduce from this that the dynamic object has always been an illusion. As a consequence, at least in matters of faith, there would be no truth, but faith would only have a good or bad effect, i.e., the end of religion would justify the means. Even from such a truth-relativistic point of view, the problem of the stability of the religious attractor remains, because, without an anchor in

the real world, this stability remains unattainable.¹¹ As with magical practices, there is always the chance to uncover the tricks of the magicians, the priests, etc. In the 16th century, the alchemists were able to enrich themselves with their promise to extract gold from other metals. At some point, however, the deception became apparent; the gold-plated bars were mainly made of lead, etc. The alchemist fell out of favor, and he might have spent the rest of his life in the dungeon. Publicly convicted impostors and fraudsters may be lynched, i.e. operating with fraudulent phantasms harbors real, not just imagined dangers.¹²

The triad of Peirce has features that imply a limit to the stability of the relational constellation due to inherent variability and random effects. Two major types of variation and instability concern the sign form (representamen in the terms of Peirce) and the sign object.

- a) Variation and instability of the sign form. If the sign object is fixed, the sign form can vary or change. If we take the simplest case of proper names and concrete nouns, the proper name seems to be the ideal of a rigid designator (cf. the analyses of Saul Kripke). Nevertheless, in many communities, a person changes his name in typical transition zones of his biography, such as becoming an adult, married, etc. A ritualized case concerns the transition of a monk or a nun; they chose a new name as soon as they enter the community of a monastery. In the case of common nouns and verbs, e.g. those designating plants, animals, artifacts, movement, action, etc. one can observe a huge variation of denominations in geographical space (i.e. in different dialects, sociolects, etc.).¹³ Scientific nomenclature tried to fix these nouns for the ease of communication in botany, zoology, medicine, etc. Biologists like Carl von Linné (1707-1778) have imposed a standard language, i.e. Latin for the nomenclature and an Aristotelean technique of class term and “*differentia specifica*”, i.e. a strict hierarchical architecture of designations. But natural languages show rarely this binary, hierarchical architecture. The meaning of common nouns has one (in some cases several) centers, the core meaning, and a continuous field more or less near to this center. At the rims of the semantic field rather vague transitions separate the different fields; transitions are often context-dependent. This situation has been described in catastrophe theoretic semantics; cf. Wildgen (1982 and 1983).

¹¹ In his novel “1984”, George Orwell describes the dispute of O’Brien, the member of the Inner Party, with the central personality, Winston. Here a short citation:[Winston] “In the end they will beat you. Sooner or later they will see you for what you are, and then they will tear you to pieces.” ‘Do you see any evidence that this is happening? Or any reason why it should?’ ‘No, I believe it. I *know* that you will fail. There is something in the universe – I don’t know, some spirit, some principle – that you will never overcome.’ ‘Do you believe in God, Winston?’ ‘No.’ ‘Then, what is it this principle that will defeat us?’ ‘I don’t know. The spirit of Man.’ (Orwell, 1949/1987: 282).

¹² If the nuclear physicists who developed the atomic bomb are considered to be the follower of the alchemists, because the nuclear process transforms chemical elements, e.g., Plutonium, into other elements like Barium and Krypton, then these modern “alchemists” were finally successful in obtaining the favor of political leaders.

¹³ The almost random variation of concrete nouns throughout the languages of the world has motivated Saussure’s “*arbitraire du signe*”.

- b) Variation and instability of the sign object. In the case of concrete nouns, the sign object can at least in the case of scientific classification be specified exactly, i.e. the scientist can control the reference in his use of scientific terms. This is normally not possible in natural languages. In the case of abstract nouns, this variability (at the limit randomness) of reference to sign objects is even more dramatic. Central notions in religion and ethics make use of abstract nouns. If God or a specific god in a polytheistic religion is described, such abstract nouns appear with a superlative attribute added; cf. [Table 1](#)~~Table-2~~

<p><i>All Just, All-Loving, All Perfect, All-Merciful,</i> <i>All Kind, All-Powerful, Omnipotent, All Charitable</i> <i>All-Knowing, Omniscient, All-Forgiving,</i> <i>All Good, All Understanding,</i> <i>Omnipresent</i></p>
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Table [12](#) *Attributes of God in Judaism, Christianity, and Islam, cf. https://www.qcc.cuny.edu/socialsciences/ppecorino/phil_of_religion_text/CHAPTER_1_OVERVIEW/Attributes_of_God.htm*

The fact that every single abstract attribute refers to a vague field of sign objects has the consequence that the accumulation of such attributes does not reduce the field, as in set theory or class logics the operation called conjunction is supposed to do. The vagueness of the field is rather increased, i.e. under the hypothesis of prototypicality and hedges the addition (conjunction) of vague predicates has the effect of disjunction. The outer border of the prototypical field is enlarged and the prototypes (the central area) multiply.

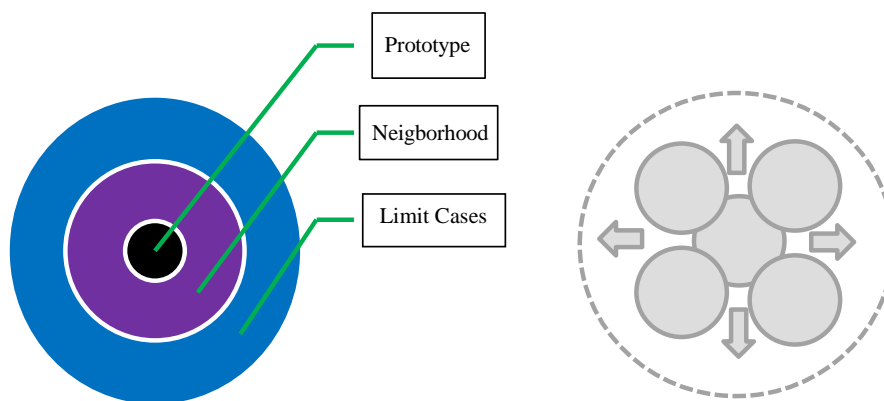


Figure 2 *The semantic field with one center (prototype) and the vagueness-drift of the conjunction of quantified attributes*

The field has a gradient that is strongest in the center and fades until it reaches the frontier line. The frontier is either defined linguistically by hedges, like quasi-, pseudo-, almost, still, or by the contact with other semantic fields that impose a line of transition (a catastrophe in mathematical terms). In the case of expressions like All-, Omni- (cf. [Table 1](#)~~Table 2~~), the semantic field is expanded without limits. The conjunction of two simple semantic fields (without quantifier like All) has already the effect of conjoining the zones of vagueness (the corresponding gradients) and thus enlarging the field. If quantifiers are added and if a larger number of quantified attributes are combined, the semantic field grows quickly and becomes extremely unspecific; in terms of information theory, it loses information. At the limit, it has information zero; i.e., nothing is said about the entity God.¹⁴

As an example take the qualification of God as *All-loving*. The verb *love* has as prototypical examples cases like: *the bride loves her bridegroom* and *the mother loves her child*. These prototype attitudes are already different, insofar as the first may have sexual/erotic features; whereas the second does not. Nevertheless, if someone loves everybody or even everything in the universe the content of love vanishes with the magnitude of the set of possible objects of love.¹⁵

If the semantic centers refer to different semantic fields, as in the list above, this disparity risks losing any contour, any shape; it becomes amorphous. If the meaning of the single qualification is not controlled in its practical meaning and use, the array of such attributes risks becoming meaningless.

6. The signification of ritual texts (hymns and psalms) and the synergetics of religious masses

The semantic analysis above comes to a result that probably does not persuade believers. They will object that religious texts have a different way of signifying than everyday utterances. Their ritual character, the sublimity of the words, their poetic mood have a different goal than profane descriptions, statements, and arguments. Their content is characteristically transcendent in the sense that it aims at meaning, communication beyond profane affairs. In the context of sacred objects, buildings, and actions, the act of signifying

¹⁴ Prototype semantics is the natural model of meaning in the case of visual prototypes and can be evaluated via computational models; cf. Pino, Campos, Nascimento (2019)

¹⁵ Hannah Arendt analyzed the doctrine of love of the philosopher and Doctor of the Church Augustinus in her doctoral theses “Der Liebesbegriff bei Augustinus” (Arendt 1929/2018). The love to God (not of God) is for Augustinus the basis not only of human love but of any societal behavior; cf. for a semiotic evaluation Wildgen (2021:48-52)..

strives for meanings not easily grasped in everyday contexts. The signification may be compared to that of music in a formal context, e.g. in a symphony of Beethoven or Bruckner in a concert hall.

The effect of the religious text or song is like the one described in the song of Josh Groban (cf. <https://www.google.com/search?client=firefox-b-d&q=you+raise+me+up+lyrics>):

You raise me up, so I can stand on mountains
 You raise me up, to walk on stormy seas
 I am strong, when I am on your shoulders
 You raise me up to more than I can be

As an example, I take Psalm 46 (King James Version)

God is our refuge and strength,
 a very present help in trouble.
 Therefore we will not fear though the earth gives way,
 though the mountains be moved into the heart of the sea,
 though its waters roar and foam,
 though the mountains tremble at its swelling.

The psalm presents a situation of extreme danger, a catastrophe scenario where “the earth gives way”, mountains are moved into the sea, waters swell and mountains tremble. In this extreme and terrifying context, God is the only refuge and help. Such situations were probably never experienced by the believers who speak or sing this psalm, but the text signifies for them the anguish and scare of a situation for which no one is prepared or can find rational means to save his life. The believer imagines a situation where he/she is helpless and asks for divine help.

The psalm and many ritual texts transport the memory of terrible catastrophes, which were passed down by many generations. Their standard horizon is that of apocalyptic situations and texts. The philosopher and theologian Paul Tillich distinguished two notions of time: Chronos, i.e. the everyday phenomenon of temporal sequence, and Kairos, a time which goes for its end, for a downfall, the doomsday when all rules are overthrown, the reign of God begins and the final judgment of all human actions is done. The realm of meanings, meaningful utterances on behalf of this time is different from the everyday meanings humans are accustomed to. The normal “logic” of real life in the time “Chronos” is annihilated.

Probably the meaning of this psalm and other ritual texts and practices can only be understood in the context of mass communication. If a social group or even a whole society is brought to a collective state of hysteria, self-enchancement, into a mood comparable to that in a spiritualistic seance individual rationality is deactivated. The assembly of former individual minds is now driven by some synergetic dynamism that suppresses all small (individual) activities of the mind and gives priority to collective forces (cf. Haken, 1983). The dynamics are comparable to the hypercycles described by Eigen and Schuster to explain the evolution of life (cf. Wildgen, 2008b on hypercycles in semiotic evolution). In the case of religion, a good example of such dynamics is given by the Pentecostal miracle reported in the Acts of the Apostles (2,4–13). The Christian believers coming together spoke in all tongues (glossolalia) and small flames burnt on their heads. Augustine saw in this report the proof of the existence of a third godlike power, the Holy Spirit. It seems difficult to give an account of such a kind of irrational sign phenomena in scientific terms; cf. the notion of “Kepler’s semiotics” introduced in Wildgen (2021b). The question arises if a poet’s semiotics may help or if it adds just a new myth to older ones

7. Semantic instability of religion and the problem of political governance

To evince the negative effects on the instability and variability of individual beliefs and the difficulties of an objective discourse about religion, the history of religions manifests certain quasi-solutions: The attributes defining religious entities are projected on examples, ideal persons, life-stories of prominent individuals, on visual or enacted figures, e.g. in a tragedy, a novel or a mystery play, a sculptural program. These real or concretized imaginary persons stand for abstract attributes. To reach the corresponding virtue the believer should follow the person, identify with him/her, imitate her/his doings or sayings, etc. Thus in Christianity, the believer, and more specifically the priest, monk/nun who wants to be a saint after death has to adopt the behavior and if possible the appearance of Christ, Mary, or some saint he/she has chosen, e.g. the saint from whom his Christian name is derived. The believer in Islam should follow the behavior or sayings of Mohammed, be like Mohammed. In polytheistic religions, the semi-gods, e.g. Heracles, Achilles, etc. serve as ideal persons who should be imitated. The Roman emperors, e.g. Nero (37-68 AD), understood themselves as gods (but mortal), i.e. the transcendent entity has flesh and concrete life and power. The problem of extreme vagueness or a loss of control over the sign object seems to be solved by this procedure. However, this solution is not apt to fulfill the hopes of believers in rescue and justice.

Linguistically, one can observe a double semantic shift: First, from rigid denomination to a description. A name is rigidly attached to a person; the name may even control his/her destiny

(“nomen est omen”). In the description, the use of common nouns, adjectives, nominal phrases, narratives, etc. contribute details, manifestations, and illustrations that give a shape to godlike characters. Common nouns and more dramatically abstract nouns open a world of variation and instability in the association of sign form and sign object. Ambiguity, polysemy, and vagueness, at the lexical level, are increased by multiple descriptions using noun phrases, in the use of metaphors, in sentential constructions, and discursive/textual elaborations. This variability, in extreme cases even randomness in the association of object/state of affairs and signs/sign complexes may be reduced by choosing exemplary persons as incarnations of virtues and attributes of divineness or sainthood (approaching the ideal features of God, Christ, Mohammed, etc.). The gospel (of Christ and his apostles), the collection of sayings (hadith) or actions (sunna) by Mohammed, epical texts as the Homeric poems, the Iliad, and the Odyssey, introduce the personalities of God/gods and their prophets. They describe their appearance, their actions, and their character. The believer can choose the deities or ideal persons he prefers, but he must also take into account the deities /ideal persons chosen by his enemies and prepare for a challenge that opposes not only human beings but also the gods they have chosen. The problem of vagueness, instability, and variation is also relevant beyond religion, e.g. in profane fields that complement or replace religious value systems.

Large and even more expanding political entities (towns, countries, empires) accumulate diversity, internal conflicts, in many cases civil wars over long periods. Classical cases were the growth of the Roman Empire that reached its culmination first with the reign of Julius Cesar who was murdered in 44 BCE and his heir Octavius, later named Augustus (emperor from 31 BC to 14 ACE) . His reign abolished not only the traditional Roman republic and 100 years of civil war between different parties, but it set also the rules of governance for the next 300 years (this period ended with the reforms of Diocletian and the following decline of the empire). Augustus is told to have built 300 temples. He took the role of the highest priest (Pontifex Maximus) and established a canon of ethical rules (cura morum) accompanied by new laws (Leges Juliae). These religious reforms were designed not only as a strategy of governance of the Empire, but it was also as a strategy of political propaganda (Pax Augustae).¹⁶

This design of governance was a blueprint and guide for the organization of the Roman church under its Pontifex Maximus, the Roman Pope.

¹⁶ As Christ was born in the reign of Augustus, his “Pax Augustae” was the nostalgic ideal form imagined by Christian authorities when they were tolerated by the emperor Constantine (313 ACE) and finally took over the schema of governance with the fall of Rome (476 ACE).

The large European empires, first that of Charlemagne, then the emperors of the “Holy Roman Empire”, the Russian Tsar (derived from Cesar), Napoleon, and finally Benito Mussolini and other fascist leaders took over the principles of Augustan governance and its propaganda.¹⁷

With the Reform in the 16th century (Luther, Calvin, Zwingli, and others), the political leadership of the Catholic church was challenged. The Lutheran and Calvinist townships in the Netherlands and Northern Germany combined religious virtues and rules with a new set of rules of political governance, based on the principle of separation of power. The political authorities (supporting the Reform) took over the rule of protectors of religion; the church had to respect this authority.¹⁸

In the following, I will take the sculptural programs on late Renaissance facades of town halls in Calvinist towns of the Netherlands and Northern Germany as an example in visual semiotics of religion (cf. for the town hall of Bremen, Wildgen, 2013: 274-281). The sculptural program contains a lexicon of public virtues (and vices) that have to be taken into account by citizens and more precisely by leading citizens like the elected members of the municipal council. This topography of virtues and vices elaborates the religious code of Christian (especially Calvinist) communities in a political context. The allegorical composition in [Figure 3](#) shows at the left the profane representation of power in the female allegorical figure representing the attribute majesty (lat. “majestas”) holding the imperial “apple” and in the lion representing political dominance. They subdue the power of the pope with tiara and sword; his pontifical cross sticking in his buttocks. The allegorical composition of the vice opulence shows a king on his throne holding down opulence symbolized by a drunken and naked person. (cf. Wildgen, 2013: 279 for the analysis of the allegorical program of the late Renaissance town hall in Bremen).

¹⁷ In 32 BCE Augustus took the title of “dux Italiae” (leader of Italy), that gave him the control of all Roman legions in the Western Empire. Mussolini took the name of “Duce” in 1921 and Hitler followed him by adaption the German title “Führer” (leader).

¹⁸ A basic argument was the reference to the answer Jesus Christ gave to the Pharisees: “Give to the emperor the things that are the emperor's, and to God the things that are God's.” (Mathew 22: 21). Under the fascist regime of Hitler, Lutheran authorities in Germany declined the right of resistance against Hitler because he had the role of “emperor Augustus” and had come to power legally.



Figure 3: Sculptures on the facade of the town hall in Bremen (1612): The triumph of majesty (Majestas, left) and the triumph over Opulence (Opulentia, right) (Photo by the author)

The example shows/tells us that the municipal council has its power directly from the emperor (excluding the feudal hierarchy) and that it abolished the power of the Pope, who is crushed down and ridiculed. The new government punishes the vices and it has the power of the sword (death penalty). The ethical program is elaborated in more than 50 sculptural fields on the façade that may be compared to the Ten Commandments written on stone by God and given to Moses.

8. Truth in religion and its adaptation to historical change

Those religions that have survived the millennia attest to their stability and one has to ask how this comes about. When we look at music, there may be no truth in music, but there is a kind of harmony between the needs of the public and the possible effects of music, e.g. movement impulses, emotional content, sometimes quasi-pictorial architectures (cf. Wildgen, 2021: 116). It can remain open if the beauty/harmony of music is a quasi-truth. At least, we can deduce that the sign-object "God" or other transcendent, supreme principles and values must meet certain quality criteria to be accepted and practically implemented by humans. The problem thus shifts from the question of the truth of religion to its "truth-like" structure that is adequate for human thinking and imagining capacities. To have long-term stability (and this also applies to the future), a religion must be convincing or at least tolerable both for the common believer, the addressee of the religion, and for the technological-scientific, or the cultural-educational class. When after the Renaissance a larger part of the clergy received a formal education (reading Latin, having free access to the scriptures) the religious message had to persuade this social class and motivate their role as missionaries or in the controversies with new denominations. In the context of a rational, ultimately scientific discussion of

religion, there should be a plausible system of assumptions and conclusions for the reflective person, so that religion is acceptable, appealing, and stimulating. For the illiterate practitioner, it must at least have aesthetic and emotional qualities.

The long-term demand on religion concerns its capacity of adaptation to new contexts of social and intellectual life. When religion is strictly constructed as an ultimate truth, such an adaptation is excluded. Rapid changes become a danger for established religions. The epidemic fragmentation of religious communities in the post-Reform era shows, how a sequence of rapid changes destroys the unity of religious communities, creates conflicts leading to permanent wars (e.g. the religious wars in France, England, Germany, etc during the 16th and the 17th century). In contrast to the creeds coming up in the Reformation, the Catholic Church tried to freeze its dogmatic positions. It took almost four centuries to accept the Copernican view of the universe,¹⁹ three centuries to adopt liturgical innovations of Luther and other reformers (during the Second Vatican council, 1962-1965); the Darwinian view of the evolution of humans is still rejected in many American Christian denominations. In contrast to the conservatism of large religious communities, an adaptation to historical contexts can be seen as a chance for survival of a religious community since from the variety of newly emerging forms of belief a selection of faith better suited to the new forms of society can be made. Despite the variability of religious creeds and the forms of religious practices, there remains the necessity to link these symbolic forms to human experience, human needs, and vital values. Religion must be grasped with the means of the human mind (including feelings and will), and find its place in concrete, spatially realized practices. Religion needs a “fundamentum in re”, an indexical rooting in reality. The problem of an ontological rooting of religious beliefs is a central one and is the topic of an extra publication, Wildgen (2021b).

9. Global dynamics of religious systems versus mythical “bricolage”

Although epistemic, knowledge-based processes are a relevant part of religious systems, these are not primarily knowledge systems but have also to respond to the conditions of global success and stability. For a human-relevant religion at least two aspects are crucial:

1. The doctrine of the faith must also satisfy complex needs, not just offer stopgaps in case of panic. It should exercise a positive, peaceful function that fills the whole psychic field of the individual. Despite all the misalignments in the historically grown religions, this can be affirmed overall.

¹⁹ Luther also rejected the theory of Copernicus, but Rheticus was sent to Poland by Melanchthon, the academic partner of Luther in Wittenberg, and could persuade Copernicus to give his manuscript to print (in Nürnberg 1543).

2. The doctrine of the faith must, especially in large, structured, and conflict-ridden societies, contribute to a non-violent coexistence that can use people's capacity to solve problems. This requires constant adaptation of the belief bases, at least when they are implemented in everyday practice. Given the rapid pace of change in the globalized world, this is a tough challenge for religions, because they have to maintain a credible continuity (what was true yesterday should not be wrong tomorrow) and still react creatively to change. A certain delay tactic is probably appropriate, because some temporary challenges may become superfluous with the next historical change of context. Most established religious communities follow the strategy: stability first, adaptation only of unavoidable.

Religious systems are very complex organizations and may be compared to a holistic work of art ("Gesamtkunstwerk"), e.g. an opera of Richard Wagner, where musical, literary, visual/architectonic, dramatic innovations contribute to a balanced and overwhelming effect. In the history of film, one can also notice developments where, beyond the moving pictures, new forms of music designed for the fifth art are devised and new techniques of quasi-literary story-telling are invented. This means that textual, visual, musical sign-structures and others must be coordinated into a coherent and persuading complex.²⁰ The individual spectators, or in the case of religion, believers, do not necessarily capture all this complexity, they rather select very specific features, but the holistic impression of plenitude persuades them that their belief is part of a global and even exhaustive system they can share with a large community.

The dynamics of religious communities are ruled by rather global trends (gradients and flows) that are mostly beyond human awareness. I shall only discuss two of them:

- a) In the course of the historical development of religions and their communities, there is a constant flow of augmentation, innovation on one side, and loss or reduction on the other. We may call these gradients: (positive) *accumulation* and (negative) *reduction*. In general, the religious system as other global systems of information and values prefers accumulation to reduction, i.e. it is harder to reduce or simplify the system than to accept augmentation and addition. In the long run, this results in a kind of hyper-complexity and as a consequence a loss of coherence and the increase of inner contradictions. The transfer of such a hyper-complex system from generation to generation becomes difficult and risky. In a non-literary society that lacks a class of priests, teachers, and administrators, a system that is too complex will naturally collapse, be abandoned. Highly organized and wealthy societies may afford hyper-complex religions or other complicated systems of rules and laws. In the case of political and social conflict or war with neighboring societies, the burden of hyper-complexity is brought down, a reduction is enforced or the whole system is abandoned in favor of another religion, e.g. the one imported by a winning neighboring society or culture. In other cases, the losers of the conflict accept the rules of the winner, but they reduce the foreign system of beliefs to its basic schemes. Thus in the Christianization of Germanic populations many belief systems, ethical standards, or technics of medicine and everyday habits were conserved alongside a rather superficial adoption of the Christian faith. Similar processes occurred in the Islamic expansion to North Africa, Spain, and India/Indonesia.

²⁰ Cf. the analysis of film music in Wildgen (2018: 107-112).

- b) A second gradient concerns the geographical and social distribution of religious systems. The underlying space has three dimensions; two dimensions are given by geographical space, i.e. the surface of a country, its distances, and directions; a third dimension is defined by social stratification (in the simplest case from high to low). Religious and other value-based systems (political, economic, etc.) result in a kind of recursive tiling of the plane or the three-dimensional socio-geographic space. The problem of regular tilings or tessellations in space was already a topic in Greek mathematics in antiquity, i.e. the regular tiling of a plane by polygonal shapes like regular triangles, squares, hexagons, etc. Bruno, Kepler, Leibniz, and Jungius have discussed (before and after 1600) the tiling of the plane with smaller and smaller circles (and of space with spheres).²¹ This problem led finally to the consideration of infinitesimals in the work of Leibniz and Newton. Penrose (1989: 168-181) discussed non-recursive tilings which lead to the problem of fractals and modern complexity theory. In chemistry, tilings are manifestations of diffusion patterns; cf. "Voronoi"-patterns. In the case of religion, the expansion patterns are comparable to a chemical reaction with diffusion and obstacles (such as natural forces like mountains or rivers, lakes or seas). Moreover, an area may be already occupied, which means conflict, replacement/displacement, or superimposition and interference. If we neglect superimposition, space can be fragmented regularly without lacunas, like an agricultural surface subdivided into fields or claims. After the Christianization of Europe, North-Africa, and the near East, the progress of Islam from 632 A.D. to 750 A.D. reshaped the geographical space in terms of religion defining new frontiers in Egypt, the Maghreb-area, Northern Spain, and Northern India, later in the former Byzantine reign, then in Greece and the Balkans. Some areas like Palestine changed hands between Judaism, Christianity, and Islam and again to Judaism with the foundation of Israel. In all these changes, minorities conserved the former religion, which was either tolerated by the majority or led to conflict and war. In feudal Europe until the French Revolution, the populations living under the reign of a sovereign had to adopt the religion of the sovereign. This principle was called "Cuius regio eius religio" (whose reign (determines) the corresponding religion, 1555 in the edict of Augsburg). The conquests of Napoleon replaced religion by the creed in the revolutionary spirit and a republican constitution. It abolished the dominance of religion over profane governance and established a secularist regime. Jews became normal citizens and could leave their ghettos. In Germany and Italy, it took almost two centuries to accomplish the secular shift. Such geographical and social dynamics can also change the architecture of the religions involved. The Lutherans and other reform creeds replaced the authority of the catholic pope by obedience to their sovereign, whereas the Catholic Church tried to uphold specific rights of the church concerning the sovereign. Thus the pope Pius XI signed the "Treaty of the Vatican" with Mussolini in 1929 and his follower Pius XII, in 1933 still Cardinal Secretary of State Eugenio Pacelli, signed a corresponding concordat ("Reichskonkordat") in August 1933 with the German government (vice-chancellor von Papen). This strategy of soft adaptation to governmental power was called "Aggiornamento" (adapting to the day) and also pursued as a political device in the Second Vatican Council (1962-1965). With this gradient, principles common in the states where Catholics live, like democracy, the acceptance of constitutions and state laws, and free choice of religion were recognized. Moreover, the dialogue with other religions existent in the same

²¹ Cf. for Bruno's geometrical constructions Wildgen (1998: 87-102), Kepler (1611: *Strena seu de nive sexangula*) and Heuser-Kessler (1991), for Jungius and Leibniz, cf. Neuser (1996).

territory (mainly protestant, orthodox Christians, Islamic populations, and Jews) was tolerated. The geographical distribution of religions is beyond political processes correlated with the distribution of other value systems, some of them older than religious creeds. Thus archaic family systems influence the preference not only of specific religions but also of ideological and political systems, e.g. political parties representing a religious faith or a political ideology (for instance a socialist/communist party or a conservative / Christian one).²²

In his anthropology of myths, Claude Lévi-Strauss tried to find the underlying “logic” and even a mathematical formula of myths (cf. Wildgen, 2019 and 2021: 225-234). In the context of his anthropology, he introduced the term “bricolage” (handicraft work) in regards to religious and other value systems. “Bricolage” catches the partially ordered, partially chance pattern of mythical beliefs. They show often a kind of patchwork combining insights and specifications at different times by different subpopulations or neighboring cultures. This strategy is also characteristic of many religions. The polytheistic systems dominant in Egypt, Greece, India, and the Roman Empire in antiquity were able to absorb almost all religions encountered in the course of political and military expansion. They could always add a new god to the pantheon, mostly in subaltern places. The adherents to the new god could build their temple and practice their rituals.²³

Religious innovators like the pharaoh Akhenaten (ca. 1300 BD) reduced the rich pantheon of Egyptian gods to one god Aten (the sun). After his death, the polytheistic system was, however, restored. The religion of Moses was also monotheism in opposition to the current polytheism of Egypt. It was, however, limited to a specific population, the Jewish tribes in search of the Holy Land (Palestine), and thus had to acknowledge the existence of other gods in neighboring cultures. In antique India of the 5th century, BC, Buddha tried to eliminate all false ideas of religion and eventually arrived at the depersonalized view of “nirvana”, i.e. gods and all other entities like heaven, or hell were left apart (“deconstructed” in modern terms). The monotheistic religions like Judaism and Christianity were opposed to such an additive strategy. Under the Roman emperor Cesar, Jews were able to obtain a degree of toleration, but Christians were persecuted under the emperor Nero and had to organize in secret places (e.g. meet in the catacombs of Rome). The religious innovators, Christ and Mohammed purified the complexities of the temple religion in Jerusalem (Christ) and the polytheistic creeds of Arabic tribes around Mecca and Medina.

²² Cf. the publications by Emmanuel Todd, in English: Todd (1985).

²³ There existed even a worship for the unknown god in Athens and the apostle Paul referred to it in his speech at the Aeropagus in Athens: “as I passed along, and observed the objects of your worship, I found also an altar with this inscription: ‘TO AN UNKNOWN GOD’ (Acts, 17: 23). I thank Wolfgang Fritz for a hint to this detail.

However, these reductions were not the final word. Buddhist creed began to adopt elements of the Hindu pantheon in India; Buddha was represented in statues like a god. In Christianity, Jesus Christ was considered not only the messiah but as god himself at the side of god-father. Eventually, Augustine created the trinity of God Father, Jesus, and the Holy Spirit. From a rhetorical perspective, such a trinity was considered as a kind of unity, such that the monotheistic quality of Christianity could be preserved. With the accumulation of Saints during two millennia of Christianity, a very large list of holy personalities was created, which were “lifted to the altar”, such that prayers could address them and ask for advice and help.

Many critical persons inside Catholicism (e.g. Giordano Bruno) rejected the accumulation of saints and their pictures in the religious practice of believers. The reformers, Luther and Calvin, and others suppressed this worship. It seems that all religions practiced by a large population have both tendencies: First, expand the list of objects (persons) of worship, adding pictures, statues, and other material signs. Second, reduce this richness or even ban all pictures and sculptures and limit the objects of worship to only one (or none in original Buddhism).

10. Some conclusions

The dynamic paradigm in religious science allows not only for an analysis of the belief-systems, their interior coherence, their complexity, and the gradients of change; it can also help to describe the geometry of diffusion, conflict, and the superposition of religious traditions. It furnishes the conceptual and mathematical tools able to describe the stability/instability and the change of religions. The tools of dynamical systems theory can be applied in a qualitative fashion, which allows for the integration of traditional analyses in a descriptive or hermeneutic style. In this sense, the qualitative models proposed on the background of dynamic system theory fulfill the function of a meta-analysis of existing theories of religion and their history. Such a “natural science” access to the phenomenon of religion may seem to be insufficient. However, to gain access to the dynamics of religion, it is necessary to observe or even experiment with actual morphogenetic and synergetic processes in religion. The current emergence or even creation of new religious or quasi-religious creeds in individuals or smaller communities is therefore a primary object of concern in the dynamic semiotics of religion. Such a qualitative or even quantitative analysis can prepare and specify scientific hypotheses that must be evaluated using observations, empirical tests, or even experimental manipulations. But religious processes are often embedded in long-time or even historical processes and thus inaccessible to experiments or observations focused on actual

developments. Currently, trends in experimental philosophy (called X-phi) have opened the door for such enterprises (cf. Knobe and Nichols, 2008). The empirical references of this new trend in philosophy (including ethics and religion) are mainly experimental psychology and neurology. In our context, the proper reference would be experimental semiotics.²⁴

Experimental and observational semiotics of religion can focus either on the morphogenesis and self-organization of sign forms, e.g. words, sentences, narratives or arguments in the case of language or pictures, spatial signs (sculptures and architecture) in the case of visual signs or songs, instrumental music or film music in the case of musical signs. The research in this field focuses on the morphogenesis of sign forms and the conditions for the choice of specific communicative strategies and their results. But it can also focus on the content side. What kinds of topoi are considered? What are the values, positive or negative, that come to the fore in religious morphogenesis? A major concern is the diffusion or acceptance of newly created forms in the religious sphere or on the contrary the oppositions, hindrances, rejections. For religious semiotics in which the appellation *science* is not just a metaphor or a claim for intellectual credit, there is no escape from such a request and semiotics will either develop the necessary tools to accomplish this goal or it will fail and disappear from the university canon.

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