

Response

THREE COMPARATIVE MAPS OF THE HUMAN

by Norbert M. Samuelson

Abstract. This article is a response to the 1994 Star Island conference on the “Decade of the Brain” from a Jewish perspective. After a brief introduction about the logical function of models and maps, I compare and contrast three models of the human: Ezekiel’s vision of the chariot in the Hebrew Scriptures, Franz Rosenzweig’s geometry of the human face in *Der Stern der Erlösung* (the Star of Redemption), and a standard anatomical picture of the human brain. Whereas Rosenzweig’s face is seen to be compatible with Ezekiel’s chariot, both are seen to be radically distinct from the implicit conception of what a human being is in modern medical science. I conclude with a suggestion that the differences are to be understood in terms of their different intended functions and express my hope for some new kind of model that will incorporate the functional advantages of both.

Keywords: brain; chariot vision; Hermann Cohen; course; Darwinist; Terrence Deacon; element; Ezekiel; face; God; Hebrew Scriptures; human being; map; midrash; model; neuron; ontology; person; redemption; Franz Rosenzweig; Duane Rumbaugh; soul; Star of Redemption; vector.

INTRODUCTION AND APOLOGIA

This essay was written in response to a request by Rodney Holmes that I should write a reflection from a Jewish perspective on the 1994 Star Island conference of the Institute on Religion in an Age of Science (IRAS). The title of the conference was “Knowledge Most Worth Having in the Decade of the Brain.” Basically the formal program of the conference consisted of a series of position papers intended to stimulate discussion, by different physical scientists who research the brain, and

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papers that drew out humanist consequences of that research by psychiatrists and philosophers.

In fact I am surprised that Holmes asked me to write this essay, since I know little about the brain and my previous research in Jewish theology had little to do directly with any concept of the human. My academic training is in Judaica and philosophy. For some time I have been interested in both science and mathematics but only as an amateur. My previous philosophic studies on the interface between modern science and Judaism focused on the doctrine of creation.¹ That research gave me a certain degree of familiarity with theoretical physics but none with those sciences most relevant to studying the brain. So I attended the conference because I share the overall commitment of IRAS that belief systems should interface the best that traditional religion and contemporary science have to teach and because I wanted to learn, but not because I believed that I had anything of my own to contribute. Consequently, my own remarks in discussion sessions were uncharacteristically brief and infrequent.

I can recall only two discussions that might have motivated Holmes's request. First, after an extended formal discussion in a mixed panel of scientists and philosophers on the implications of brain research for a religious conception of the human, I expressed some interest in the fact that at no time had any speaker or discussant used the terms *soul*, *person*, or *self*. Second, at the conclusion of an extended discussion among Jeff W. Dahms (a surgeon and theoretical physicist from Australia), Holmes, and me, Holmes asked whose account of the origin of the universe I preferred, that of contemporary cosmologists or that of Genesis. I said Genesis, primarily because it is aesthetically and ethically richer.

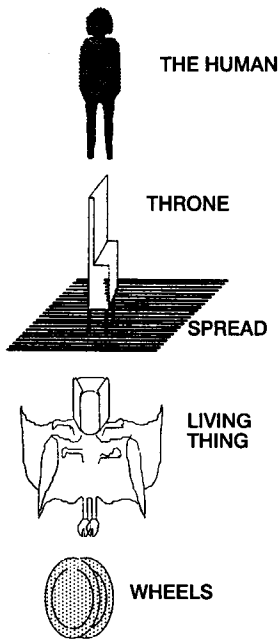
In this paper I want to compare a biblical² visual model for the human with what I believe to be properly comparable models in modern Western science on one hand and contemporary Jewish philosophy on the other. In all three cases the models presented are selective, that is, they are not the only possible models found in the three spheres of belief systems to be considered; and these models are in all three cases vast oversimplifications. In fact they are almost caricatures. However, I believe this form of presentation is justified for the following reasons: In all three cases, the model presented grows out of the most rigorous and direct statements about the nature of the human in their appropriate literary contexts, and the models are appropriately only models, that is, maps.

Before I proceed to the essay itself, let me say a brief word about mapping to end this introductory apologetic. Maps are task oriented. A street map of Philadelphia leaves out almost everything about the city except the streets, and the streets on the map, which tend to be intersect-

ing lines, in no way look like the streets themselves. For example, the streets on the map have length and uniform color but no breadth, whereas the streets themselves have a variety of breadths and colors and are far more curved. But all of this is irrelevant to a street map whose sole purpose is to enable users to find streets from other streets. In general, maps are intended to enable users to perform specific activities better than they would be able to otherwise. Thus maps necessarily leave out almost all details, because they exclude everything not relevant to the intended tasks. Hence, two very different maps of the same place can look entirely different and be equally good maps, because the activities they map are very different. I am going to say something very similar to this about the ways that the Bible, Jewish philosophy, and modern science understand human beings. Their seemingly very different concepts are in fact very similar kinds of maps whose differences are due primarily to the different kinds of tasks these pictures are intended to aid.

THE PICTURE OF THE HUMAN IN THE HEBREW SCRIPTURES:
THE VISION OF THE CHARIOT IN EZEKIEL

Figure 1 is a visual representation of the verbal picture that Ezekiel draws at the beginning of the record of his prophecy. Let me begin by setting the



vision in its textual context. Ezekiel ben Buzi, a priest of Zadok, is sitting by the river Chebar, which in all likelihood is another name for the Euphrates, on the fourth day of the month of Tammuz in the fourth year of the exile of him and his people from the holy city of Jerusalem.³ At this specific time and place, Ezekiel is hit by a strong, stormy wind (RUACH) from the north. He finds himself sitting in the middle of a great cloud, surrounded by electrical fire, and within this fire he sees a vision, which he, like many other priest-prophets before him, identifies as a word (DAVAR), also called a "hand" (YAD), from the Lord (Ezek. 1:4-5). In general, his vision is not unlike those of others. God calls him and tells him what he must say to his people (Ezek. 2-9). But what is unique in this case is that the aural description is preceded by a relatively lengthy (for the Hebrew Scriptures) visual description.⁴

Fig. 1.
Ezekiel's vision

In general, the Hebrew Scriptures read like a book written by a blind person for other blind people. Stories are dialogues. We are told what the actors say and where they are, but we are told little, if anything, about what they and their locations look like. For example, we know a great deal about what kind of people Abraham and his family were, but we have no idea what they looked like. Similarly, we know that Moses and Miriam were very emotional, whereas their brother Aaron was mild mannered. But how tall were they? Were they fat or thin? What color was their skin? And so forth. There is only one set of exceptions to this generalization: It is the Toraitic description of the tabernacle and the priestly vestments associated with the priests who offered sacrifices within it. In this case we know the physical dimensions of everything associated with the structure, as well as the texture and colors of the clothes the priests wore and the vessels they used, but we have no idea what they said when they performed the sacrifice. The texts read as though the tabernacle, and subsequently the Temple in Jerusalem, were in a different world from the rest of the earth. The latter was a land of sound but no color, whereas the former was a land of color but no sound.⁵ In this context, Ezekiel's vision is best understood as something occupying divine space, that is, a place that, like the then-destroyed Temple in Jerusalem, is *holy land*. But it is more than just a holy place. It is also, like the first chapter of Genesis, a model of the entire universe.

At the bottom of Ezekiel's map are a set of wheels (OPHANAYIM) (Ezek. 1:15–21) above which, spatially separate from the wheels, is a compound living thing (CHAYOT) (figure 2).⁶ The living thing has four sides. On each can be seen a face (PANIM),⁷ attached to a body (GEVI-

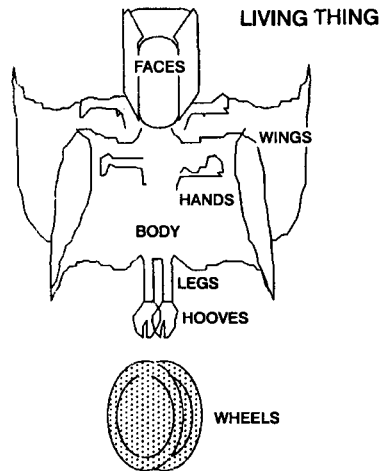


Fig. 2. The living thing

YAH), with human hands (YEDEI ADAM) that are covered by a set of wings (K'NAPHAYIM), attached to straight legs (RAGLAYIM YESHARIM) that end in the feet (KAPAYIM) of a calf; from each body spreads out a second pair of wings, which in conjunction produce the appearance of the creature as an interconnected, organic, single entity. All of the feet, like the four bodies, are uniform in appearance and color. Specifically, the feet all sparkle and have the color of burnished brass. All that is different about them are their faces. According to Ezekiel chapter 1, the four faces in order were of a human (ADAM), a lion (ARYEH), an ox (SHOR), and an eagle (NESHER).⁸

The wheels were set on the earth below the life-form, and they, although spatially separate from it, were the mechanical means by which it moved. But the wheels were not the cause of the motion. Rather they were moved back and forth constantly by the wind (RUACH).

The living creature and its wheels, set firmly upon the earth, belong to a spatial domain distinct from the envisioned space above the life-form. What separates the two domains is a spread (RAKIYA').⁹ Above the spread is a seat or throne (KISE), above which is a human (ADAM), which Ezekiel calls "the glory of the Lord" (KEVOD YHWH) (Ezek. 1: 26–28). This is generally described as "the appearance of the divine," but it is not. First, everything described above the spread is only something "like an appearance" (KE-MAREH) (Ezek. 1: 26) and not an actual appearance. Second, within this kind of appearance the throne isn't really a throne; it is "the likeness" (DMUT) of a throne. Third, the appearance of the human above the throne is only a likeness (DMUT) of something like the appearance (KE-MAREH) of a human (Ezek. 1: 26). This two-steps-removed-from-an-actual-appearance-of-the-human is ablaze in fire. More accurately, what Ezekiel sees is a fire in what is something like a human shape, which is also like a rainbow in a cloud, and at the same time, is like (DMUT) the glory of the Lord (KEVOD YHWH) (Ezek. 1: 27–28).

The first half of the last sentence of Ezekiel's vision (Ezek. 1: 28) describes the association of the image of the human with the image of God's glory. The second half of the sentence reads: "I looked, fell on my face, and I heard a voice/sound (KOL) speaking." What it speaks is the word/hand of God. In other words, where the visual image ends, with the identity of the human and divine glory, the aural begins. Presumably, the aural is to be understood as a higher form of knowledge; to hear what God says to the human transcends seeing who God and the world are.¹⁰

So much for the text itself. Now let me turn to what it means and why I chose it to focus a biblical conception of human beings. For the most part the Hebrew Scriptures are not primarily about human beings. Their central concern is how God interacts with God's created world.

Human beings are part of the story, because they are the creator's creatures. Still, they occupy a privileged place among the creatures. They are the creatures most like God in that they, like God, are rulers. The Hebrew Scriptures begin (Genesis 1) with God differentiating space into two regions, the sky and the earth, which God subsequently orders to generate living things within their domains. But in each domain God creates a distinctive life-form to govern, under God's direction, that domain and its other life-forms. In the case of the sky it is the great lighter¹¹ and the small lighter.¹² In the case of the earth it is the human.¹³ The sign that lighters are unique among celestial bodies is that they are commanded to govern their celestial domains, day in the former case and night in the latter. Similarly, the human is unique among the creatures of the earth in that it is commanded to govern the earth, its bodies of water, and its other life-forms. Furthermore, in at least one other respect, the human (but not the sun and the moon) is like the creator; in fact, so much like the creator that it can be said to be in the creator's *image* or *likeness*; that is, both the human and the divine govern by speech. In God's case, the primary way that God makes things is by saying that they should be and naming them. Similarly, the human makes the created life-forms of the earth into distinct species by giving them names (Gen. 2: 19–20).

But to say that the Hebrew Scriptures are concerned with the human in general at all is an overstatement. In fact, once we move beyond the story of the paradigm human into the real world beyond the garden of Eden, humanity becomes divided into distinct nations, and it is nations, not humans in general, that interest both the Hebrew Scriptures and their deity. In fact, human beings in general are rarely mentioned. It is against this background that the singular reference to a human face, not distinguished by any kind of national identity, stands out as a rare instance of biblical concern with the human species as a species.¹⁴

For Ezekiel, as for every other author in the Hebrew Scriptures, a human being that has no nationality is no more something actual than is a human being who has no height, weight, or color. Rather, it is only a model of the human. In fact, nothing in Ezekiel's vision is precisely what it says it is. Each entity described—the wheels and humanesque life-form of the domain below the spread, the seat and the humanesque divine glory above the spread, and the spread itself—is a model or map of the real. The same should be said about the picture that the author(s) of Genesis draws in its first chapter. It too is not in itself anything actual. The universe God creates there is a universe of differentiated spaces of regions of light and dark, wet and dry, and, most important, earth and sky. But it has no occupants; only paradigms. There is the vegetation, the animal, the fish, the bird, the human; but there are no trees, no animals,

no birds, and no engendered human beings. But what are they models of? The answer is, of the universe. So the image that the Hebrew Scriptures present is a picture of human beings interconnected in some form of dynamic with both God and the universe. But more exactly, how are they related? Because it is the relationship that defines them. Again, both Genesis 1 and Ezekiel 1 map the universe, whose dynamic elements are God, the world, and the human. But all maps are intended to aid some function. What function do these maps serve?

We find the answer by recalling the literary, historical context of Ezekiel's vision. Ezekiel was a priest of the Jerusalem Temple who was in exile in Babylonia. The setting is approximately five years after Jehoiachim, and presumably Ezekiel as well, were taken captive into exile. Ezekiel struggles to come to terms with his collapsed world and his failed life, and finds his answer in a vision. In doing so he was not alone. Similar visions in similar circumstances are recorded by Isaiah (6:1-4), Jeremiah (1:1), Micaiah (1 Kings 22:19), and probably by others as well. The answer is a vision of the Tabernacle in the Jerusalem Temple¹⁵ projected beyond its prior limited location in a specific place atop Mount Zion in Jerusalem to a cosmic location above the world. This location shows Ezekiel his new vocation in the disenchanting world—to prophesy to the nation Israel to prepare itself to mend the world by becoming a holy people.

THE PICTURE OF THE HUMAN IN JEWISH PHILOSOPHY:
FRANZ ROSENZWEIG'S HUMAN FACE IN THE "STAR OF
REDEMPTION" III : 3

Figure 3 is a visual representation of the verbal picture that Franz Rosenzweig draws at the conclusion of his philosophical-theological masterpiece, *Der Stern der Erlösung* ("The Star of Redemption") (1976).¹⁶

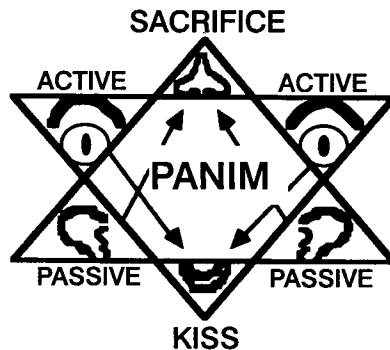


Fig. 3. The star of redemption

Rosenzweig draws this picture with words in a single paragraph.¹⁷ Let me begin here as well by setting the description in its context within the work as a whole.¹⁸ Rosenzweig wrote “the Star” during the First World War, shortly after he had completed his doctoral studies on Hegel’s political theory, while on active combat duty. He wrote the work to make sense of his decision to commit himself to becoming an observant, religious Jew despite the secular Germanism of his parents, the enlightened Hegelianism or neo-Kantianism of his teachers, and the Christian evangelism of his closest friends and cousins. To both understand and justify this life task, he drew a picture of the universe. That picture is the star of redemption (fig. 4).

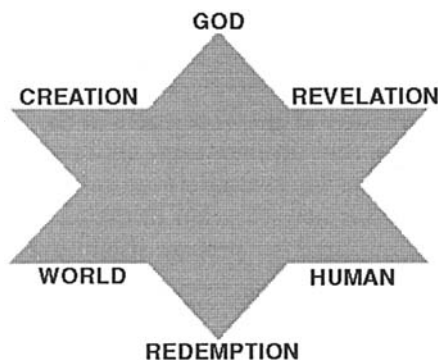


Fig. 4. The universe

Generally the star is presented as an intersection of two triangles to form a star of David, with one triangle representing what Rosenzweig calls *elements* (God, Human,¹⁹ and World), and the other triangle representing what he calls *courses*²⁰ between the elements (*creation* from God to the World, *revelation* from God to the Human, and *redemption* from the Human to the World). But this picture of Rosenzweig’s image is a distortion, primarily because both the elements and the courses are points of origin and end that define vectors, not lines (figs. 5 and 6). What is wrong with lines is that they are static, whereas Rosenzweig’s universe is absolutely dynamic. Furthermore, it is a universe without substantives. As nouns in the language of the Hebrew Scriptures are really active participles, so things in Rosenzweig’s ontology are really movements. Hence, his elements are not things, as the endpoints that define a line are. Rather, they are terms that define directions of pure motions, namely, origins and ends that show from where a motion came and to where it is going. Substantives and motions in his universe are

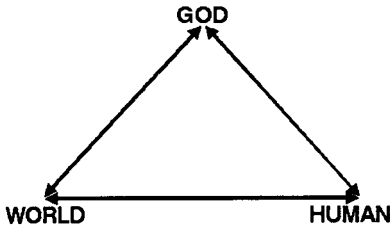


Fig. 5. The elements

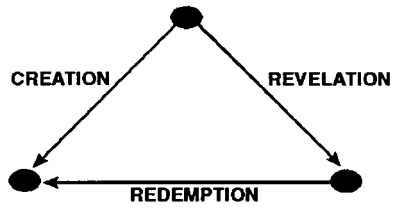


Fig. 6. Courses between the elements

best understood, as they were by Rosenzweig's teacher, Hermann Cohen, as integration functions. The motion is the function, and the integration is the substance. As a function is integrated from zero to one, so Rosenzweig's elements have their origin in nothing and move through their respective domains toward becoming something and unified.

Since my focus is on the model of the human, let me say a bit more about this element. Although the Human is a single element, its expressions in concrete time and space are an infinite number of unique persons, all of whom begin as distinct nothings that move through the course of their time and space to become distinct somethings. At their origin all individuals are free precisely because they are nothing. They exist through accidents, and because they are accidents, there is, at least at first, nothing to restrict their directions. But the origin is only an instant. As they live, their environment and their past choices determine them. They all will to be something, not nothing; and the more they succeed, the more they become defined by what they are becoming, the less freedom they have to be other than what they are becoming. The direction toward which these wills move is the world of things and (more important) of other persons. In other words, each individual as individual is a nothing who becomes something only at the cost of individuality. Individuals become defined by categories. They join groups that give them meaning. Most important, they become parts of human communities—families, and ultimately nations. It is at the level of community in nations that Rosenzweig, like the Hebrew Scriptures, focuses his attention. That is, there are Greeks, Asians, Muslims, Jews, and Christians. As Rosenzweig uses these terms, they name real peoples in lived time and space. But the categories are not just historical; they are also ontological. Not all Christians are Christians. Nor are all Jews Jews. Rather, each term describes ways human collectives live life in the time and space that constitute the in-between, that is, what is after the origin of everything in creation and before its end in redemption.

Note further, on the model of calculus, that every end is an asymptote. God's becomes the All who redeems; the World of objects comes to life as Soul; and the Person as human becomes the image of God. All three ends are, from the perspective of the final redemption, the same. But there is no actual final perspective, since the end is infinitely remote. The closest we can come to that perspective is an enactment through Jewish and Christian ritual of the promise of (in the case of Jewish liturgy) and the hope for (in the case of Christian liturgy) redemption. That ultimate perspective is not itself redemption. Rather, it is only a view or prospect of everyday life.

Rosenzweig's description of the view of the end, also in a single paragraph, is preceded by a backward look at the picture he has just finished drawing through all three parts of "the Star." As a retrospect, Rosenzweig sees the star of David, his model for all of reality, as a face/vision. It is the face of God²¹ that is invoked in the priestly blessing "May the Lord make his PANIM enlighten/shine upon you" (Num. 6: 25). And at the same time, this divine face is also human. It is the human face/vision drawn above.

Rosenzweig's initial triangular vector between elements had combined to form a second triangular vector of the course by which the elements are connected to each other. Now these two triangles become transformed into the sensory organs of a face, that is, the instruments or tools by which one face or presence communicates with some other thing or person, namely, the organs of sight (eyes), smell (nose), hearing (ears), and tasting (lips). They are arranged into two levels, one active and the other passive.

The receptive organs are the ears and the nose, which together form a triangular vector of what Rosenzweig calls "pure receptivity." The activity of the vector is sacrifice. Through the ears it received the exclusively oral commands of God in the Torah; those commands were to offer sacrifices, burnt offerings. The agent of the offering is the nose, both divine and human. The sacrifices were intended for God. What God would eat would be the sweet-scented smoke, consumed through the divine nostrils. But the smell was also consumed by those who, in fulfillment of the divine command, offered the sacrifices.

The active organs are the eyes and the mouth, which together also form a triangular vector. What the eyes see in the world finds its expression in the words formed by the mouth. In Rosenzweig's words, "the mouth is the consumer and fulfiller of all expression of which the presence/face is capable, both in speech and finally in the silence behind which speech retreats: in the kiss." In the time between creation and redemption the divine-to-human world of revelation is a domain of visionless speech, which humans transform into their own speech in the

lived world. But in the end, standing before the Holy of Holies in the divine space of the holy mountain, revelation also becomes visual, as it did for Ezekiel. And this end of the world is also the end of the human. It is the perfect death for the perfected life. Here Rosenzweig has in mind how midrash interpreted the death of Moses at the end of the Torah. Scripture says, "And Moses, (the) servant of the Lord, died there in the land of Moab by the mouth of the Lord" (Deut. 34:5). God's mouth (PEH) was interpreted to mean God's kiss. In other words, Moses died by the kiss of God. Hence, Rosenzweig draws a single face that has two redemptive actions: It hears with two mundane ears divine revelation to offer through a single mundane nose a personal sacrifice, and it sees with two mundane eyes human life to be consummated through a single mundane mouth in a divine kiss.

Rosenzweig's description of this human appearance leads into the description with which "the Star" concludes. It is a theological midrashic commentary on Micah's prophecy of the end of days (specifically, Mic. 6:8). Standing before God in front of the Holy of Holies in the Temple, God says, "You have been told, O human (ADAM), what is good and what the Lord seeks from you: It is only to do justice, love mercy, and humbly walk with your God." Rosenzweig interprets "to humbly walk with your God" as expressing the ultimate ritual of Jewish life, the one that Ezekiel describes in his vision of the chariot, of standing in God's presence in the Holy of Holies. It is a demand for complete trust in God as a precondition to have the belief,²² hope, and love that alone have the power to make possible the ultimate ethics of the Christian way to love mercifully every fellow human being and make the world just.

In the end reality reduces to a sacrifice and the kiss. They are the final glimpse we can have of the endless variety of motion that constitutes reality. The sacrifice is the Jewish life, to live each moment as if we stood before God in his holy space. The kiss is the Christian way to establish justice and to love neighbors, whoever they may happen to be. One without the other is incomplete. Together—those who faithfully serve as a holy people by living the ordinances of Torah and those who devotedly follow the prophetic way by mending the broken world—they realize redemption.

THE PICTURE OF THE HUMAN IN THE NEUROSCIENCES: THE BRAIN

Finally, I want to compare the first two models with the human brain, as interpreted by contemporary neurosciences. The brain is not the only scientific model for the human. I could, for example, have presented a diagram of a complete human skeleton, with or without internal organs

and external sensors. But more than any other physical organ, the brain is widely understood to be the part of the anatomy that is most distinctively human.

In general, what the brain does is control actions of the rest of the body by means of its component neurons—some 12 billion of them. This number represents a human mental potential far greater than anything that our species has yet, individually or collectively, even approximated. This brings me to the context in which this model is situated—the 1994 Institute on Religion in an Age of Science Star Island conference on the “Decade of the Brain” (30 July–6 August).

The most immediate and general use of the model is to aid in healing the sick. In part the presentation of this model at the Star Island conference had this medical use in mind. But that was only part of the conference’s interest. In fact it was a relatively secondary part, given that this was a conference about the interface of science and religion, and not about medicine. That is, most people who attended the conference were not there to learn how to cure diseases; they were there to learn how to live their lives and possibly instruct others on how to live their lives as well. So, to give one example, Terrence Deacon presented a paper that appears in this issue of *Zygon*. In it he argues that humans seem to be unique among animals in that they are capable of evolving real language. Another Star Island speaker, Duane M. Rumbaugh of Georgia State University, lectured²³ on his research teaching language to apes in order to show that the human species is not unique. Rather, it only happens to be the case that humans have been more fortunate (not more capable) than other animals, and that given the right circumstances, apes at least (no less than humans) can learn and transmit to their offspring real language. The papers were presented by scientists, but their issues (and consequently the papers) are philosophical, not scientific: Are human beings qualitatively different from other animal species? Or are the apparent differences between species only quantitative?

THE HUMAN IN HEBREW SCRIPTURES

The Hebrew Scriptures asserted a qualitative hierarchy of vegetation (whose function is to provide food for living things), living things (whose function is to reproduce and provide food for God), humans and lighters (whose function is to govern the lesser living things), and God (whose primary function is to create). What placed God and the human at the top of the hierarchy is the fact that they and they alone were capable of real speech, whose ultimate sign is the ability to impose on others moral obligations (what Scripture calls “the knowledge of good and evil”). Similarly, medieval Muslim, Jewish, and Christian philoso-

phers divided the universe qualitatively into vegetation (which had growth and reproduction), animals (which could do what vegetables do, but better, and also had sensation and locomotion), humans (who could do what animals could, but better, and also could reason and speak), angels (who could reason like humans, but better), and an incomparable God. Deacon's position is continuous with this history, with only a slight shift in the model underlying it. The hierarchy of species is also continuous, where higher species perform the functions of lower ones, only they do it better and have other (higher) functions as well. The lowest life-forms have the functions associated with the spinal cord; next come those who in addition to having a spinal cord have the functions associated with the hindbrain; then those with a midbrain; then those with a forebrain; and of those with a forebrain, what distinguishes the human for qualitative excellence is the power of language.²⁴ The physical base for this distinction is the unique ratio of the human cerebral cortex to the rest of the brain. It is Rumbaugh's paper that constituted a radical break with this biblical tradition, for he in effect suggested that the cause of the superiority of the human species had to do with social circumstance, not physiology.

Now it can be argued that the difference between Deacon and Rumbaugh is not as sharp as I have suggested, and certainly they themselves maintained that there need be no disagreement between them. In fact, both expressed themselves as committed Darwinists, at least in two respects: First, differences of species are matters of chance, that is, mechanical causes, and not design, that is, teleological/purposeful causes. Second, physiology and environment mutually influence each other. In this context, both Deacon and Rumbaugh could be said to agree that there is a noticeable physical difference between human and ape brains (Deacon). Humans have had in the past the right environmental circumstances to learn speech, whereas apes have not (Rumbaugh), and there is no reason why physiological changes cannot produce environmental changes and vice versa.

More interesting to me, however, is what Deacon and Rumbaugh (and every other speaker in the conference) share: the same model of what a human being is and the way that model stands in significant contrast to the models of Genesis and Rosenzweig.

It is these differences that underlie my questions about the lack of reference to souls or persons or selves. It is my judgment that if I had to choose between models, that of the brain and Ezekiel's chariot vision, I would choose the chariot. First, the brain model suggests that a human is a substance. It is a something. To be sure, it has activities. But it is a something with activities. The actions modify it; they do not constitute it. Second, the brain model images an isolated entity. In fact, insofar as

the brain alone represents the human, the human has no contact with anything but itself. The richness of neuron possibilities mentioned above reinforces this isolation. There is so much that a living brain can think and feel on its own, just by realizing its internal possibilities, that the entire universe, past and present and future, could never exhaust it. In fact, it is not clear why a brain should need anything but itself. It needs neither a world, nor other persons, nor God. Third, to the extent that value judgments can be placed on human beings within the perspective of the brain model, the criterion for comparison is breadth and depth of experience. To experience is in itself better than not to experience. And if a hierarchy of kinds of experience can be given, rational/artistic thought is the highest form of experience. On this model, the ideal human being is the thinking individual thinking true thoughts. It is at best a nonmoral picture, for in principle there is no reason why, given its potential, the human as a brain needs anyone or anything other than itself. The fact that in practice no human can live in isolation is only a necessity, possibly even a necessary evil, but not something to be counted as inherently good. Fourth, on the brain model, human beings are indiscriminate human individuals. They have no families, no races, no nationalities, and no religions. Again, the fact that in practice no human can live in such isolation is only a necessity, possibly even a necessary evil, but not something to be counted as inherently good. Fifth, on the brain model, it is in no sense clear why anyone need assume moral obligations to other human beings or worship God in a traditional community. The model may not count against such social and spiritual association, but it in no way helps one to live better with such association.

All the terms that I initially raised questions about function at this level. A *self* is something that you are or become in yourself, but a *person* is something you can be only in relation to others. It is the term *soul* that, with respect to the models of Genesis and Rosenzweig, is most noticeable by its absence in the brain model. With reference to the Hebrew Scriptures, there are a variety of terms for soul, the most important of which is NEFESH. Now an entity with NEFESH is a living thing, and to be a living thing has important consequences. For example, whenever a census is taken, what is counted are the number of things that have NEFESH, which here means "persons who count." Furthermore, murder is defined as taking from something its NEFESH, and the reason it is prohibited is that the NEFESH both comes from and belongs to God. In other words, it is the term *soul* that defines a self as a moral entity who stands in a complex relationship of moral obligations to humans and God. Thus, although we are defined by our power to think and speak, it is not just thought and speech that make us human; rather it is our use of those powers to become moral.

CONCLUSION

The truth is that I would rather not choose between the models. The brain model does something that the other two cannot: It points me in a reasonably good direction for dealing with disease. But there is much that it cannot do; notably it cannot point me in a good direction to live a better life when I am healthy with either God or with other healthy people; and it cannot help me to live distinctly as a Jew who can live a full moral, responsible life with all other persons and things, while remaining clearly focused in my place as a member of a nation, a people, and a family. What I would ultimately like to see is a unified model for being human that helps me do all these tasks well. As yet I have not seen one. However, I suppose that if physicists can live with radically different models for understanding the world, I can live with radically different models for becoming a human.

NOTES

1. That research included a study leave in 1992 at the Chicago Center for Religion and Science at the Lutheran School of Theology at Chicago with Philip Hefner and Thomas Gilbert, who introduced me to IRAS. The research resulted in two books: Samuelson 1992 and 1994.
2. I will use the terms *Bible* and *biblical* throughout this article as a shorthand for the Hebrew Scriptures, or what Christians call the Old Testament.
3. Cf. Ezek. 1:1 and 10:15. This dates the vision to 593–592 B.C.E.
4. Ezek. 1 and 10. I treat these two chapters, which surround the report of Ezekiel’s first prophecy, as alternative descriptions of the same experience.
5. When I describe this contrast to my students, I ask them to think of the difference between Kansas and the land beyond the rainbow in *The Wizard of Oz*.
6. CHAYOT. The term is grammatically plural (*viz.*, living things), but the reference clearly is singular: Ezek. 1: 5–14. The term CHAYOT is a feminine plural that functions here grammatically in the same way that the masculine plural SHAMMAYIM (*sky*) functions in Gen. 1.
7. The term also means “surfaces.” E.g., in Gen. 1:2 the wind of God (RUACH ELOHIM) hovers at the face/surface of (PNEI) the water.
8. According to chapter 10, they were, in order, the faces of a cherub, a human, a lion, and an eagle. For our purposes all that matters is that one of the faces is human. According to some classical

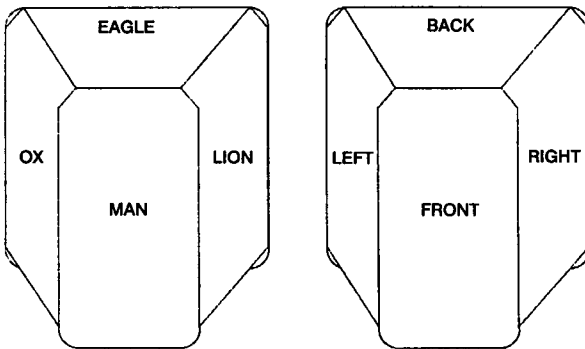


Fig. 7. The four faces

rabbinic commentators on the text, all of the faces were human. The differences relate only to their expressions, i.e., each represents a different kind of human attitude in the presence of (AL PNEI, literally, before the face of) the divine.

9. Ezek. 1 : 22–24. The term RAKIYA', usually translated "firmament," names the same stuff that God creates in Gen. 1 : 6–8 to separate the upper from the lower domains of water. He names it "sky" (SHAMAYIM). As we shall see, here it separates the realm of the living thing with the face and hands of a man from the fiery human appearance that is identified with God's glory.

10. Hermann Cohen and his followers in Marburg-Kantian Jewish philosophy would interpret this as another instance of Judaism's affirmation that practical/moral knowledge transcends theoretical/scientific understanding. I more or less agree with them, as will become clear at the end of this essay.

11. The term KOKHAVIM usually is translated "stars." Medieval Jewish, Muslim, and Christian scientists and mystics associate or identify them with angels. The great lighter is generally identified with the sun.

12. Generally identified with the moon.

13. HA-ADAM is usually translated "Adam" and treated as a proper name of a male individual. It is more literally "the human," which is more accurately to be understood as a paradigm model for all human beings, including both males and females.

14. Ezek. 1 : 5–10. More specifically, Ezekiel sees a life-form that has a human face and human hands but does not have a nationality.

15. Cf. 1 Kings 6 : 23–28, where on the walls of the inner house of the sanctuary are pairs of cherubim made of olive wood and overlaid with gold. See also 2 Kings 19 : 15, where God is pictured sitting above cherubim who are associated with the ark of the covenant. I consider all of these to be visions of the central altar within the Temple.

16. Henceforth simply referred to as "the Star," where "the Star" a: b (c) means part a, book b, page c of the original German of the text (Rosenzweig 1976).

17. "The Star" III : 3 (470–71): "Tor, Rückblick: Das Gesicht der Gestalt, Das Menschengesicht" ("Gate: Recapitulation: The face of the Structure, the Human Face").

18. Those readers who have no familiarity with Rosenzweig's thought and in particular his "Star" should see Samuelson 1989.

19. *Der Mensch*. The term usually is translated as "man" and could be reformed to read "the Human," but "the Person" more accurately captures what Rosenzweig has to say about this element and its dynamic course. In contrast to God, *Mensch*, like World, is a creature. But in contrast to World, *Mensch*, like God, is a will. In this respect, the infinite number of concrete individuals that express the element World are things. Similarly, the infinite number of concrete individuals that express the element *Mensch* are persons, that is, entities situated in time and space who, like things, are acted upon but who also, like God, are active, willing agents.

20. As will shortly become apparent, these so-called courses, where the sense of the term is the same as in the English term *race course*, are really directions.

21. I.e., the divine presence, also PANIM in Hebrew.

22. The belief, which Rosenzweig develops in the second part of "the Star" as a form of understanding, based on reading revealed texts (i.e., a form of midrash), that enables human beings to act in the world in relation to each other beyond what is possible through a scientific wisdom that is unsupported by a revealed scriptural tradition.

23. "Language Comprehension in the Great Apes and Human Child Development: An Intellectual Continuum."

24. Note in this context that the verbs in medieval Hebrew (DIBBER) and medieval Arabic (KALAM) that meant "reasoning" also meant "speaking language."

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