

A constructionist perspective on values: a response to postmodern fragmented identity

Marina Umaschi Bers

marinau@media.mit.edu

Rabbi Sergio Bergman¹

sbergman@2b1.org

Rabbi Yehuda Ha-Nasi said: Which is the right course that a man should choose? any one which in itself does credit to him who adopts it and which also brings him honor from men...

Chapters of the Fathers (Pirkei Avoth: II:1)²

Abstract

This paper is an attempt to establish a fruitful dialogue between science and religion. We propose that new ways of thinking about values and identity emerge from the interaction between these realms, and we claim that new technologies have the potential to impact the formation of integral human beings in our postmodern age of fragmented identity. These technologies are not only changing our environment, but also the way in which we know our own selves. "Know thyself", one of the mandates in the Jewish and Christian tradition, is today carried over by academic disciplines such as cognitive science and artificial intelligence (AI). The effort to build complex societies of simple mental agents and intelligent robots as collections of behavior modules echoes the postmodern phenomena of fragmentation and decentralization. In this paper we explore what are the consequences on our understanding of human values that follow from the notion of identity as a complex society of fragmented selves. We propose constructionism as a response to fragmentation. A constructionist perspective views identity and values as resulting from personal and social constructions grounded in diverse and contradictory identification models. Within this framework we identify "action", "embodiment" and "situatedness" as themes present in both AI and Judaism.

¹ Marina Umaschi Bers is a doctoral student at the MIT Media Laboratory. Rabbi Sergio Bergman is the rabbi of the Buenos Aires Reform Community "Emanu-El" and doctoral candidate at the Jewish Theological Seminary.

² Chapters of the Fathers, translation & commentary by Samson Raphael Hirsch. Feldheim Publishers. 1967

1. Introduction

New technologies are not only changing our environment, but also the way in which we know our own selves. “Know thyself”, one of the mandates in the Jewish and Christian tradition, is today carried over by academic disciplines such as psychology, cognitive sciences, anthropology and artificial intelligence. According to the Jewish tradition God presented himself to Moses in the Sinai by saying, “I am that I am” (Exodus III:14). This recursive definition of identity serves as a metaphor of our own need to discover who we are.

While scholars approach identity as a research question, other communities, such as religions and spiritual traditions also explore identity at the experiential level. Both the academic and the experiential approach have implemented their own methods of producing changes in the way people think about themselves. While the sciences have developed different therapeutic and modeling techniques, the religions have utilized meditation, praying and confession. All of these methods aim at gaining a better self-knowledge.

But what do we mean by “self-knowledge” in a postmodern time? Postmodernity is the name given to a vast cultural transformation happening in Western societies today and it is associated with ephemerality, discontinuity, decentralization and fragmentation (Sarup,1996). The question is not if this new mindset is right or wrong, but what is the impact of this perception of reality on our conception of self.

According to the Jewish tradition the unity of God, which is proclaimed in the prayer “Shemah”³, is expressed through the diversity and plurality of God’s fragmented manifestations in the world. More specifically, the Lurianic mystical tradition says that in order to construct ourselves as unique and integral human beings we also need to construct the world which was fragmented at the very same moment of its creation (Idel, 1947). The concept of construction as a response to fragmentation will be a recurrent

³ A translation of the Shemah reads: “Hear, O Israel: the Eternal One is our God, The Eternal God is one”.

theme in this paper as an attempt to establish a dialogue between the sciences and religion.

New conceptual and technological tools can help us to explore the development of the values that constitute us as human beings. In this paper we will explore one of these conceptual tools: constructionism, a term coined by Seymour Papert (Papert, 1980), co-founder of the AI Lab and the Media Lab at MIT, and pioneer in the area of computers and education. Constructionism is derived from the term constructivism used by epistemologists⁴ to refer to “a theory of knowledge in which knowledge does not reflect an “objective” ontological reality, but exclusively an ordering and organization of a world constituted by our experience” (Von Glaserfeld, 1984). In this paper, we prefer to use the term constructionism, and not constructivism, because it carries a more interventionist perspective. While constructivism aims at understanding how knowledge is constructed, constructionism also aims at designing learning environments to produce a change in our mindsets.

Elements of this constructionist philosophy can also be found in the Jewish tradition and the theological position of Mordechai Kaplan, founder of the Reconstructionist Movement. He proposed to think of Judaism not only as a religion but as a religious civilization in a permanent process of constructing meaning according to the diverse temporal and geographical contexts of the Jewish people all around the world (Kaplan, 1957). Kaplan’s Reconstructionism also had an interventionist perspective: a challenge to maintain and re-create a fragmented Jewish identity in a rapidly changing world.

Are the contemporary models of mind as complex societies of mental agents (Minsky, 1987) and the effort to build intelligent robots as collections of behavior modules (Brooks, 1991) a step towards understanding our own selves as fragmented entities? If the notion of one true, unique and knowledgeable self is thrown into doubt, how do we

⁴ Jean Piaget, father of the genetic epistemology, used the term constructivism to refer to a theory of developmental psychology. Papert’s use of the word constructionism is rooted on Piaget’s constructivism.

understand cultural, spiritual and human values⁵ as constitutive elements of our identity? What consequences of our understanding of values follow from this picture of a fragmented self with a plurality of voices? How can we leverage the characteristic of the computer as a “second self” or “psychological machine”⁶ (Turkle, 1984) to support learning about identity and the construction of human values? These questions propose some of the issues that we will look at.

This paper is not intended to provide all the answers. Our goal is to identify questions that emerge from the dialogue between different disciplines. We take some risks; for example, our backgrounds might lead us to use same words but with different meanings. However, we take the risk of misunderstanding because in a world in which identity is seen as fragmented and values contradict each other, personal and social conflicts arise. In this paper, we will do our best to convince the reader that a constructionist approach to values might be one of the responses to the challenge of forming integral human beings in these postmodern times of fragmented identity. We will also show how powerful Artificial Intelligence ideas such as emergence, embodiment, situatedness and “society of mind” deeply impact our constructionist approach to values and strongly resonate with our interpretation of the Jewish theology (Heschel, 1987) that we present in this paper.

2. Learning about identity

Language without ambiguity loses its power. However, ambiguity by itself can destroy any attempt to communicate. In different contexts language acquires different meanings. To avoid misinterpretations, in this section we will define what we mean by learning and identity. Both terms are widely used with different meanings.

We understand learning as the process of knowledge construction within a social and affective context. Constructionism asserts that people are likely to create new ideas when

⁵ We are aware that different theologians might have a different understanding of values, therefore later in this paper we will define our vocabulary.

they are actively engaged in making external artifacts that they can reflect upon and share with others (Papert, 1980). Therefore knowledge is never the result of a passive activity of receiving information, but of an active engagement with the world through manipulation of artifacts and interactions with people. In this sense, the term learning can be applied to both humans and machines. The difference strives in the self-awareness or self-consciousness recursive loop. Computers might be able to perform better if they are capable of learning about their own mechanisms or identity. However, for humans, learning about their own identity is not only associated with successful performance but also with the raising of existential questions.

Why the need to learn about our own identity? There are many personal and social reasons. At a personal level, to learn about our own identity is a way to be at peace with ourselves in order to freely engage in other types of learning. At a social level, the world is full of violence and crimes perpetrated against persons solely because of their identity: race, religion, national origin, ethnicity or sexual orientation. To learn about our identity is a prevention mechanism that would allow us to conceive of others as an opportunity for exchange and not as a threat.

In the old times in order to know who they were, people used to look at their surroundings. People were born in one community, were raised by family members in a well-known social, cultural and spiritual landscape. It was easy to distinguish boundaries between “us” and “them”, and the “I” was generally part of the “us”. Learning was part of a holistic experience guided by a mentor or tutor who accompanied the learner through a large range of different life experiences⁷. There was no official curriculum and the development of the self included physical, emotional, intellectual and spiritual aspects. The learner learned what was needed at each moment, without distinguishing between the needs of the mind, the body or the soul.

⁶ Turkle defines the computer as a psychological machine, not because it has a psychology but because it provokes us to think about our own.

⁷ Nowadays we can still find this type of educational experiences in traditional environments such as rural villages or in certain monasteries and religious institutions.

With the emergence of the industrial revolution, a new institution was created to take charge of education: the secular school. The need to find a way to make the learner's experience uniform and universal led to the development of a curriculum that specified areas worthy of study. The intellectual development of the individual was the main goal of the schools, while the emotional, physical and spiritual aspects were delegated to the family, the work environment and the religious institutions.

With the advent of psychoanalysis, the desire to explore the self spread and started to detach from its religious origins. The study of the inner world grew to include not only the soul, but also issues of identity. Freud's concept of the unconscious added another turn to Descartes' rationalist view of identity: "I think, therefore I am". At the same time a decentralized perspective of self started to appear. In postmodern times, the self is seen as constituted of many different fragmented identities that might contradict each other. Identity becomes complex, as complex as the surrounding world. However, what do we mean by identity? Do we mean "self", "mind", "soul", "spirit"? Depending on our tradition we employ one or the other concept to understand humans as meaning-making creatures⁸.

Some psychologists (Kegan, 1982) have used the word "self" to define "the zone of mediation where meaning is made"; anthropologists and cultural studies scholars used the word "identity" to refer to this meaning making system in negotiation of autonomy and identification (Sarup, 1996). While "self" is strongly grounded in the need of finding boundaries between "me" and "not-me", "identity" is grounded in the identification with a cultural, religious or social group. The word "soul" extends this process of identification and separation to the realm of spirituality and moral nature. "Soul carries highest importance in hierarchies of human values, frequently being identified with the principle of life and even of divinity" (Hillman, 1975).

⁸ Meaning is the layer that gets constructed between an object in the world and our understanding of that object. The actions we take in the world are based on the meaning we make out of objects. If we replace the word "object" by "subject", the meaning making activity acquires a second twist because it involves

According to the Jewish tradition the soul is the transcendent human essence. Our soul resides temporarily in our bodies and, with our death, it returns to God. The Jewish theology of transcendence says that the soul reaches immortality fundamentally through the memory of those who are alive and, through their actions, evoke the values and virtues of those whose bodies have disappeared. The souls of the people from the past serve as exemplar models of action. In our interpretation of the Jewish tradition the concept of soul is intimately linked with the body. As we will see later in this paper, the importance of this relationship is also present in current artificial intelligence research. For example, Rodney Brooks proposes that robots must be built with bodies for them to have minds.

Cognitive sciences and artificial intelligence (AI) have used the term "mind" to identify mental processes that include the full range of human cognition: problem solving, decision making, routine action, perception and motor behavior, language, motivation and emotion. While cognitive sciences are concerned with the nature of knowledge, one of the tasks of AI is to derive computational models of human thought. However, AI is not only concerned with building machines and robots able to learn and exhibit a behavior that can be intuitively called intelligent, but also with broadening the scope of what intelligence is. Even more, as Foerst (1996) pointed out, AI shares with theology the search for a deeper understanding of what it means to be human.

3. A society of self

In our postmodern times, fragmentation and decentralization are spreading throughout different realms: new technologies, scientific models, theories of knowledge, organizations and theories of mind and self. According to Mitchel Resnick (1994), a centralized mindset, the assumption of centralized control, is giving way to a decentralized mindset. The main notion of personal essence is thrown into doubt. There is no longer one true, unique and knowledgeable inner world (Gergen, 1991). Distributed technologies and new ways of understanding systems as diverse as the mind and chaotic

another individual making interpretations. In that case, we talk about communication and negotiation of

structures open the possibility of redefining how we conceive our own selves. In "The Saturated Self" (1991), while exploring how new technologies affect identity, Kenneth Gergen provides a historical perspective. In the 19th century there was a romanticist view of self in which characteristics of personal depth such as passion, soul, creativity and morality, were acclaimed. In the 20th century, a modernist view of self came into existence and reason became the most important human characteristic.

In the postmodern era, social scientists say that the self is saturated due to the overload of technologically mediated interactions while engineers are building those technologies and theologians try to understand the impact of this technological saturation on our spiritual being. However, we believe that new technologies saturate the traditional notion of centralized self but open the possibility of playing with postmodern visions of identity. For example, Turkle (1995) proposes the development of the windows computer interface as a "powerful metaphor for thinking about the self as a multiple distributed system". Turkle looks at new technologies emerging in the culture of simulation as a gateway to understanding a set of ideas associated with postmodernism. She proposes MUDs and other examples of computer mediated communication as "evocative objects for thinking about human identity" because they provide spaces in which "the notion of multiple selves is not only a theoretical stance but a lived experience".

Artificial intelligence theories, such as Minsky's "society of mind" (Minsky, 1985), contribute to this postmodern vision of identity by proposing a mind as a collection of many smaller processes, called agents. These agents can only do very simple things. Yet when they join in societies it leads to intelligence and complex behavior. Minsky uses this metaphor to explore how intelligence can emerge from non-intelligence. We use this metaphor to explore how identity can be conceived as a "society of self", composed by a plurality of co-existent and disparate voices.

How does, in a certain context, a particular self emerge as a powerful voice amongst many other voices? Brooks' subsumption architecture (Brooks, 1990) offers a good model

meaning to reach shared understanding.

to think about this emergent phenomena. This computational model implements layers of simple behavior-producing modules that communicate with each other through inhibition and suppression mechanisms to let more complex behaviors emerge. This description of emergent phenomena extends to our proposed “society of self”. In each different context one of these selves becomes stronger and emerges as a powerful voice out of a chorus of voices.

Where do these voices come from? The Jewish tradition presents an analog to this chorus of voices in the celestial angels (Malachei Hasharet). Their responsibility is not only to assist the realm of divinity but also to protect human beings. The guardian angels with which we have internal dialogues are mystical figurations that we construct in times of need to make decisions and resolve moral conflicts. The chorus of celestial angels grows with us and is a theological metaphor that can be used to understand the “society of self”.

Each individual contains a multiplicity of others that may not necessarily harmonize and becomes, in terms of Kenneth Gergen, a “multiple populated self”. This multiplicity can be also understood in terms of different selves that we acquire from identifying with others with whom we may or may not interact in a direct way. Mary Gergen (1997), defines this selves as “social ghosts”⁹ — people removed in time or space, fictional characters, imaginary friends and other possible entities with whom we engage in private imaginary conversations. These internalized others can be also understood as role models or internal voices which contribute to the inner dialogues we have with ourselves. This chorus of voices serves as model for action in the world since it exemplifies diverse moral traits¹⁰.

4. Jewish narrative interpretation as construction

⁹ Different authors have used diverse terms to address the concept of social ghosts: internal voices, invisible guests, social imagery, role models, possible selves, shadow realities.

¹⁰ Owen Flanagan in “Varieties of Moral Personality” (Harvard Univ. Press, 1991) proposes the category of moral saints to refer to this exemplars “who are not candidates for official canonization since they do not

Although the “I” might be fragmented, we experience self as a coherent unity. Coherence results from our condition of meaning-making creatures and allows us to construct a story. Narrative is not only a communication genre, but also a cognitive tool fundamentally responsible for organizing our possible selves in a coherent way (Bruner, 1986). This view of narrative as having a major part in the construction of our identity is also present in the Jewish tradition.

The Torah (Five Books of Moses) is conceived not only as a sacred text, but also as a life text which is re-written and re-interpreted at each relevant personal and community event. The value of the text lies in the value of the people who re-create and re-interpret, in their own lives, the values proposed by the tradition. For example, the festivity of Passover, which commemorates the exodus of Israel from Egypt, conveys the importance of narrative: “And you should tell (“vehiggadeta” in Hebrew) to your son on that day, ‘It is (being celebrated) because of what the Lord did for me when I went free from Egypt’” (Exodus 13:8). However the mandate to tell the story is not only to remember the exodus, but also to allow people in each generation to consider himself as if he had gone free from Egypt. It is not enough to learn about the value of freedom, we need to actually experience it in a concrete way.

Jewish theologian, A. J. Heschel (1951) proposes that the Biblical narrative can be a source of inspiration for constructing the values and role models that we identify with. The multiplicity of voices, models, paradigms and values that the Biblical text offers, allows us to reinterpret not only the text but also our own selves. Heschel proposes that to accept the challenge of the hermeneutic experience of finding new meanings in the scriptures is the first step towards returning to the religious experience. According to his theology, the eclipse of religion in postmodern times happened, not due to the advance of science but because religion stopped being meaningful for us; it became boring, oppressive and without personal meaning. To return to religious experience, Heschel

perform miracles”. Different traditions emphasize and look up to different qualities and values in their saints or moral leaders.

urges us to make the divine presence in the Bible meaningful in our own lives by the actions we take in the world.

Narrative allows us to put together the diverse and contradictory elements of the “society of self”. The Torah anchors us to the tradition but at the same time, pushes us to construct new meanings in order to build a sense of identity. The Biblical text is the essence of the Jewish practice, however it is not only text but also pre-text and con-text. It is a text that invites interpretation in order to become “Torah of life”: a Torah re-interpreted according to concrete values and life experiences.

5. The construction of values

How does a fragmented concept of self impact our notion of values? Does a fragmented identity also imply fragmented values? Is a “society of self” populated by many voices also populated by different, and even contradicting, values? These questions do not have an easy answer. However to start shedding light on them, it might be helpful to explore what we mean by the word “value”.

The American Heritage dictionary defines value: “a principle, standard or quality considered worthwhile or desirable”. Value, in this sense, sometimes is used as a synonym of virtue, moral excellence and righteousness; and as a synonym of ethics, a set of principles of right conduct which stress conformity with idealistic standards. According to our Jewish theological position, values and virtues are intimately linked but are not the same thing¹¹. Values are abstract repositories of prescribed beliefs or normative principles for personal and social action, while virtues are instantiations in concrete experiences in the world.

¹¹ Every theological and philosophical school defines values, ethics and virtues with a different perspective. Our position is based on the existentialist philosophy of A.J. Heschel which states that one of the spiritual problem of our times is the negation of transcendence (Heschel, 1987). Transcendence happens when we recreate the pact (brit) between God and men. AI is also seeking transcendence by recreating a new pact between man and machine.

Values can be associated with ethical principles, for example truth, while virtues are associated with behaviors, for example, being honest. While values are thoughtful convictions about what is good, virtues are the concrete practices, anchored in particular cultural and religious traditions. For example, the Jewish tradition systematized values into a normative system of 613 religious precepts (mitzvot) that were revealed by the Torah and were re-interpreted by the rabbinical tradition in the legal corpus or Halachah. When those precepts are put in practice and therefore re-interpreted according to the context, we can call them virtues.

The Jewish practice of virtues is always based on two dimensions: action and role models. Rabban Gamliel says “provide yourself with a teacher...” (Pirkei Avot 1:16). Every sage and every teacher, with his or her own practice of values, contributes to the identification process through which values, as components of our identity, are constructed. We learn more about values and virtues by seeing others in action, than by reading in books or following the activities proposed by the educational curricula¹². The Jewish precept of study: “Talmud Torah kenegue kulam” (“the study of the Torah is equivalent to all the prescriptions”) is interpreted as an invitation to “live the text” and not just to understand it. Values get constructed through concrete identification with people who become models of virtues as well as through concrete everyday behaviors.

Embodiment and situatedness, lessons drawn by Brook’s research on artificial intelligence, are useful conceptual tools to carry over when trying to approach values with a constructionist perspective. Our identity is defined by how we behave and the actions we take in the world (behavioral approach) and not only by what we say we are (knowledge representation approach). This emphasis on behavior and not only on

¹² However, in traditional educational experiences concerned with the teaching and learning of values a constructionist approach to values is rarely seen. In most of the cases the authority (the teacher, the curricula, the community, the institution) presents to the children information and narratives that introduce different universal human values. Models of virtues, historical or religious figures, are also presented to the children hoping that identification will occur. However, many of those role models are far removed from children’s everyday experiences and do not respond to children’s actual dilemmas. Values are presented as a static list of “dos” and “dont’s”, abstractions that children can repeat by heart, without grounding in a personal or social context. In these kind of experiences, role models are empty vessels, with no invested meaning on the part of the child, and do not accomplish the envisioned identification process.

knowledge is very important to understand our constructionist approach to values. Robots need to experience the world (through sensors) and behave on it (through motors and actuators) in order to learn and construct intelligence. Human beings also need to experience the world in order to construct their values and their identity.

However, the actions that we humans take in the world are grounded in our “society of self” composed by a plurality of role models and their set of conflicting values, and not on competing layers of behavior-producing modules like in Brooks’ robots. Within a constructionist framework, values are a dynamic context-dependent collage of actions grounded in personal, cultural and spiritual role models and not only a static abstract formula passed from generation to generation. In a fragmented world, values lose their monolithic unity and become personal and social constructions.

According to the Jewish theology humans are “sparks from the divine”. To be human is not only to mirror the divinity but also to have the same potential as the divinity. This potential can be realized by our virtues. In Genesis 1:26 we read: “And God said, Let us make man in our image, after our likeness”. And so was the man created, following the Biblical narrative, in the image of God. The man was created as a creator and therefore shares with the divine an immense ethical responsibility. A man who is aware of his role as constructor is deeply tolerant; if we know that our values are constructed we also know that other people’s values are constructed and therefore we must respect them (Watzlawick, 1984).

Constructionism allows us to establish a bridge between two intellectual traditions that are rarely in contact: our interpretation of the re-constructionist Jewish theology, based on Kaplan and A.J Heschel, and the epistemological disciplines concerned with how we, humans and machines, become intelligent and therefore learn how to learn.

We are approaching values, not from a prescriptive abstract ethical perspective, which we call informational, but as a problem of the construction of the concrete, which we call experiential. This approach is strongly grounded on what Papert calls the aim of Artificial

Intelligence, “to give concrete form to ideas about thinking that previously might have seem abstract, even metaphysical.”

6. Conclusion

Identity, neither values, are a stamp put on our forehead by our ancestors. Different disciplines, in both the humanities and the sciences have created conceptual and technological tools to address identity as a decentralized and fragmented phenomenon. In this paper we defined identity as the zone of mediation where meaning and values are constructed. Narratives, traditional spiritual and cultural sources, community and family practices, interact with each other in a chaotic way allowing us to construct a dynamic sense of self. We are not born “being” but we “become”.

Theology, AI and cognitive sciences share an interest on understanding this process of becoming. The verse “And God said, Let us make man in our image, after our likeness” (Genesis I:26) was interpreted by Maimonides (Maimonides, More Nebuchim:1190) emphasizing the fact that the creation of man in image and likeness to God refers to the cognitive act of understanding that humans not only have an “image” of the divine but also are “like” the divine. This “likeness” means that humans have the potential to behave as creators. Maimonides interpretation leads us to reinforce our interest in a dialogue between the sciences and religion so we can make our selves in “image” and “likeness” to God. The “image” and “likeness” reside not on the resulting object created, but on the human action of creating with ethical responsibility.

In this paper we took a constructionist perspective to understand values as personal and social constructions grounded in contradictory, diverse and concrete identification models. We used our Jewish perspective to inform this work and hope that in the future, comparative studies can be done with other religions and theological positions. There is no opposition between the development of new technologies and the development of a spiritual life. New technologies can assist in the discovery of the underlying patterns that

connect the humanitarian values and worldviews proposed by different religious and cultural sources.

We not only propose that new ways of thinking about identity and values emerge from the interaction between disciplines such as psychology, theology, artificial intelligence and cognitive sciences, but we also claim that new technologies have the potential to concretely support this exploration¹³. Heschel wrote that the Greeks studied to understand the world around them; the Hebrews, not only studied, but also reinterpreted the text to respect the pact with God. The modern man studies because information is power. But computers are not only information machines, but also psychological machines. In their difference and their similarities to us they provoke us to explore what it means to be human. And that exploration is one of the most powerful ones.

Our constructionist approach to values is a search to find a response to the demands of living in the postmodern times of fragmented identity. We accept the challenge without imposing absolute truths, neither religious nor technological. As Jewish sages like Rabbi Chanina ben Dosa said: those who put their conscience before their science, their science will last; but those who put their science first, it won't last¹⁴. A dialogue between science and religion can dignify what it means to be human so may we be blessed from generation to generation in our acts of creation and construction.

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¹³ Microworlds, safe environments to explore possibilities in the computer, can be powerful tools when applied to the construction of identity and values. For example Logo, a programming language developed by Papert and his team in the sixties, is an example of a microworld to explore the world of mathematics and geometry as well as to experience powerful computational ideas. A different type of microworld has to be designed to specifically explore the world of identity and evoke conversations about powerful humanistic ideas.

¹⁴ The above is our interpretation from Pirkei Avoth 3:11 which literally reads: "Rabbi Chanina ben Dosa, said: He in whom the fear of sin goes before his wisdom, his wisdom shall endure; but he in whom wisdom precedes the fear of sin, his wisdom will not endure." In our interpretation, "fear of sin" is the fear of committing some act that would not be in accordance with our conscience.

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