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Virtual Reality as an Advanced Imaginal System: A New Experiential Approach for Counseling and Therapy

GIUSEPPE RIVA
FRANCESCO VINCELLI

ABSTRACT. Virtual reality (VR), an exciting new technology, can be used as an advanced imaginal system: an experience that is able to reduce the gap existing between imagination and reality. In that sense, VR can improve the efficacy of a psychotherapy by reducing the distinction between the computer's reality and the conventional reality. That experience can induce in the patient an awareness of being more skilled in the difficult operations of recovery of past experiences through the memory and in foreseeing of future experiences through the imagination. Starting from the existing research in this area, the authors discuss the possible use of virtual reality in counseling and therapy, its underlying possible advantages, and its existing constraints.

Key words: cognitive therapy, using virtual reality in therapy

VIRTUAL REALITY (VR) IS USUALLY DESCRIBED as an exciting new technology. Since 1986, when Jaron Lamier coined the term, VR has been usually described as a collection of technological devices: a computer capable of 3D real-time animation, a head-mounted display, and data gloves equipped with one or more position trackers (Durlach & Mavor, 1995). That vision is also well reflected in the growing research work concerned with virtual environments (VEs). Most research has focused more on the development of new rendering technologies than on the highly interactive and dynamic nature of a user-system interaction that VR supports.

The focus on technology, however, is somewhat disappointing (Riva, 1996b). As noted by Steuer (1992), that approach "fails to provide any insight into the processes or effects of using these systems, fails to provide a conceptual framework from which to make regulatory decisions and fails to provide an

aesthetic from which to create media products" (p. 73). VR constitutes a three-dimensional interface that puts the interacting subject in a condition of active exchange with a world re-created via the computer. The possibility of not limiting the paradigm of interaction in a unidirectional sense represents the strong point of the new technology: Man is not simply an external observer of pictures or one who passively experiences the reality created by the computer but may actively modify the three-dimensional world in which he is acting, in a condition of complete sensorial immersion (Riva, 1997; Vincelli & Molinari, 1998).

In this context, VR takes its place as an advanced imaginal system: an experience that is able to reduce the gap existing between imagination and reality (North, North, & Coble, 1997; Vincelli, 1999; Vincelli, Molinari, & Riva, 2001). From the birth of clinical psychology to the present day, the majority of psychotherapeutic techniques that have been developed and consolidated over time have been based on the analysis and modification of mental images. From the interpretation of dreams to the most up-to-date procedures of cognitive restructuring, the common goal has been to intervene on the internal representations of reality that prove to be nonfunctional with respect to the required adaptation to the environment.

The images of the mind constitute the result of the operation of psychological processes and describe to us three aspects of extreme importance for the assessment of, and intervention on, the individual—the representations of self, the representations of the world, and the representations of the future; these aspects are characteristic of every subject and, in certain cases, may be associated with precise psychopathological types. Therefore the assessment of possible dysfunctions and subsequent treatment cannot disregard the examination of processes of perception, thought, and attribution of meaning through the involvement of the verbalized images.

Within that process, VR can play an important role development because it can reduce the distinction between the computer's reality and conventional reality. We (Vincelli and Riva) determined that this situation changes the traditional relationship between client and therapist (Vincelli, Molinari, & Riva, 2001). The new configuration of this relationship is based on the awareness of being more skilled in the difficult operations of recovery of past experiences through memory and of foreseeing of future experiences through imagination. At the same time, the subject undergoing treatment perceives the advantage of being able to re-create and use a real experiential world within the walls of the clinical office of his own therapist (Castelnuovo, Gaggioli, & Riva, 2001; Vincelli, 1999).

We contend that VR can be a sheltered setting where patients can start to explore and act without feeling threatened. In that sense, the virtual experience is an empowering environment that therapy provides for patients. As noted by Botella and his team (Botella, Banos, Villa, Perpina, & Garcia-Palacios, 2000),

nothing patients fear can "really" happen to them in VR. With such assurance, they can freely explore, experiment, feel, live, and experience feelings or thoughts. VR thus becomes a useful intermediate step between the therapist and the real world. With VR, it is unnecessary to wait for situations to happen in the real world because any situation can be modeled in a virtual environment, thus greatly increasing self-training possibilities. In addition, VR allows the situation to be graded so that the patient can start at the easiest level and progress to the most difficult. Gradually, because of the knowledge and control afforded by interaction in the virtual world, the patient will be able to face the real world.

Starting from these premises, we outline in this article a theoretical framework for supporting the development and tuning of clinically oriented VR systems and note the advantages and existing constraints. We also note the leading researchers in this area and discuss their outcomes.

Virtual Reality in Clinical Psychology

According to Banos and colleagues (1999), VR can affect cognitive development because of "its capability of reducing the distinction between the computer's reality and the conventional reality." Moreover, "VR can be used for experiencing different identities and . . . even other forms of self, as well" (p. 289). As Vincelli (1999) noted, the experience can induce in the patient the awareness of being more skilled in the difficult operations of recovery of past experiences through memory and of foreseeing of future experiences, through imagination.

The diffusion of VR in clinical psychology is constantly increasing (Rizzo, Wiederhold, Rica, & Van Der Zaag, 1998). Hodges et al. (1995) used virtual environments to provide 10 college students with acrophobia with fear-producing experiences of heights in a safe situation. The researchers found significant differences on all measures between the students who completed the virtual reality treatment and those on the waiting list ($N = 7$).

Rothbaum and colleagues (Rothbaum, Hodges, Watson, Kessler, & Opdyke, 1996) verified the possibility of using a virtual reality airplane for exposure therapy in the treatment of fear of flying for a 42-year-old woman with a debilitating fear and avoidance of flying. The virtual reality exposure involved six sessions of graded exposure to flying in a virtual airplane. On a planned posttreatment flight, the woman completed the trip with anxiety measures indicating that she had had a comfortable flight.

North and his team (1997) also presented a case study of a 42-year-old man with a fear of flying who was recruited for virtual reality therapy. Using a helicopter simulation, the therapists exposed the patient to anxiety-producing stimuli in progressively challenging situations. The use of VE desensitization produced a significant reduction in anxiety symptoms and an increased ability for the patient to face phobic situations in the real world.

In a more recent controlled study, Rothbaum's team (Rothbaum, Hodges, Smith, Lee, & Price, 2000) compared the results from clients' exposure to VR therapy, standard therapy, and being part of a wait-listed control. Treatment consisted of eight sessions over 6 weeks, with four sessions of anxiety-management training followed by either exposure to a virtual airplane or exposure to an actual airplane at an airport. A posttreatment flight on a commercial airline measured the participants' willingness to fly and their anxiety during the flight immediately after treatment. The researchers found that the results from the VR treatment and the standard exposure therapy were equally superior to the results from the wait-listed control experience. The participants maintained the gains observed in treatment at a 6-month follow up.

North and colleagues (North, North, & Coble, 1996) also verified the possibility of using VEs in the treatment of agoraphobia. In a controlled study, the experimental group exposed to VR therapy reported significant improvement. The Botella group (1998) used a similar approach in the treatment of claustrophobia. The North team (North, North, & Coble, 1998) also used the technique in the treatment of public-speaking disorder. Expanding these approaches, Vincelli and colleagues (Vincelli, Choi, Molinari, Wiederhold, & Riva, 2000) outlined a multicomponent protocol using virtual technology for the treatment of panic disorder with agoraphobia. The Virtual Environments for Panic Disorder virtual reality system, which was developed for this therapy, includes a display system, motion input system, and four-zone virtual environment. The clinical protocol, outlined for seven sessions, proceeds from the assessment through the completion of graded exposure and booster sessions.

VR exposure is also used as an alternative to typical imaginal exposure treatment for Vietnam combat veterans with posttraumatic stress disorder (PTSD). Rothbaum and colleagues (1999) exposed a Vietnam combat veteran with PTSD to two virtual environments, a virtual Huey helicopter flying over a virtual Vietnam and a clearing surrounded by jungle. The patient experienced a 34% decrease on clinician-rated PTSD and a 45% decrease on self-rated PTSD and maintained the treatment gains at 6-month follow-up.

Riva and colleagues (Riva, Bacchetta, Baruffi, Rinaldi, & Molinari, 1998; Riva, Bacchetta, Cesa, Conti, & Molinari, 2001) are using experiential cognitive therapy (ECT), an integrated approach ranging from cognitive-behavioral therapy to virtual reality sessions in the treatment of eating disorders and obesity. The treatment lasts about 28 weeks, with 4-week inpatient/outpatient treatment and 24-week telemedicine (Internet-based) treatment. It is administered by therapists having a cognitive-behavioral orientation who work in conjunction with a psychiatrist on the management of the pharmacological component. In a case study, a 22-year-old female university student diagnosed with anorexia nervosa received ECT treatment (Riva, Bacchetta, Baruffi, Rinaldi, & Molinari, 1999). At the end of the inpatient treatment, the woman

had increased her body awareness, had reduced her level of body dissatisfaction, and presented a high degree of motivation to change.

Expanding those results, Riva and colleagues carried out two preliminary clinical trials on female patients: 25 patients suffering from binge-eating disorders were included in the first study and 18 obese patients in the second (Riva, Bacchetta, Baruffi, Cirillo, & Molinari, 2000; Riva, Baruffi, Rinaldi, et al., 2000). At the end of the inpatient treatments, the patients in both samples had modified their bodily awareness significantly. The modification was associated with a reduction in problematic eating and social behaviors.

Optale and his team (Optale et al., 1999; Optale et al., 1997) used virtual reality as a new means of treating male erectile disorders. The obtained results show that VR seems to hasten the healing process and reduce dropouts, suggesting that the method opens or consolidates new or rarely used brain pathways, facilitating the flow of new mnemonic associations that promote the satisfaction of natural drives.

In a recent case report, Hoffman and colleagues (Hoffman, Doctor, Patterson, Carrougher, & Furness, 2000) provided the first evidence that entering an immersive virtual environment can serve as a powerful adjunctive, nonpharmacologic analgesic: 2 patients received VR to distract them from high levels of pain during wound care. The preliminary results suggest that immersive VR merits more attention as a potentially viable form of treatment for acute pain. The results were confirmed in a second study (Hoffman, Patterson, & Carrougher, 2000) on 12 burn patients who performed motion exercises of their injured extremity under an occupational therapist's direction: All patients reported less pain when distracted with VR, and the magnitude of pain reduction by VR was statistically significant.

In general, with the use of VR software, it is possible to re-create with the subject undergoing treatment a hierarchy of situations corresponding to reality, which he or she may experience in an authentic way because of the involvement of all his or her sensorimotor channels (North et al., 1996; Riva, Wiederhold, & Molinari, 1998). The experience of virtual environments enables the interacting individual to immerse himself or herself in a dimension of real presence that can play an important role in therapy.

As Glantz (Glantz, Durlach, Barnett, & Aviles, 1997) noted,

> One reason it is so difficult to get people to update their assumptions is that change often requires a prior step—recognizing the distinction between an assumption and a perception. Until revealed to be fallacious, assumptions constitute the world; they seem like perceptions, and as long as they do, they are resistant to change. (p. 96)

Using the sense of presence, the therapist can actually demonstrate to the patient that what he or she perceives does not really exist. Once the patient has

understood that, the therapist and the patient can challenge individual maladaptive assumptions more easily.

Using the New Technology

Even if the number of reported applications is constantly increasing, understanding how to use immersive VR to support clinical practice presents a substantial challenge for the designers and users of this emerging technology. As Banos and colleagues (1999) noted, VR has two opposite faces. On one side, it can be used by clinicians as a "setting lab where to study anomalous behaviors, emotions and beliefs" (p. 284). On the other side, "VR can be also seen as a creator of psychopathology" (p. 288) for its potential for inducing reality judgment and identity problems. Moreover, it is well known that the tool can induce potent side effects, such as cybersickness, and aftereffects (Rizzi, Wiederhold, & Buckwalter, 1998), forcing the clinician to have a clear plan of approach to lessen the probability of inducing harmful consequences for the patients.

The opposite faces result from the peculiar characteristics of VR. The tool is not simply a particular collection of technological hardware but can be considered as a new medium, defined in terms of its effect on both basic and major psychological processes (Durlach & Mavor, 1995; Riva, 1999a, 1999b). According to Bricken (1990), the essence of VR is the inclusive relationship between the participant and the virtual environment, in which direct experience of the immersive environment constitutes communication. In that sense, VR can be considered as the leading edge of a general evolution of present communication interfaces such as television, computers, and telephones (Kay, 1984). The main characteristic of this evolution is the full immersion of the human sensorimotor channels into a vivid and global communication experience (Biocca & Delaney, 1995).

Following this approach, it is also possible to define VR in terms of human experience (Steuer, 1992): "a real or simulated environment in which a perceiver experiences telepresence," in which telepresence can be described as the "experience of presence in an environment by means of a communication medium" (pp. 78–80). Starting from those definitions, we outline a theoretical framework for supporting the development and tuning of clinical oriented VR systems.

Virtual Reality as Imaginal System

The Disappearance of Mediation

The possible use of a virtual environment as an advanced imaginal system is based on a key idea: the perceptual illusion of nonmediation. According to Lom-

bard and Ditton (1997), the term *perceptual* shows that the illusion "involves continuous (real time) responses of the human sensory, cognitive, and affective processing systems to objects and entities in a person's environment." Furthermore, a person experiences an *illusion of no mediation* when he or she "fails to perceive or acknowledge the existence of a medium in his/her communication environment and responds as he/she would if the medium were not there."

We concluded that a key issue for developing satisfying virtual environments for the clinical use is the disappearance of mediation, a level of experience in which the VR system and the external physical environment disappear from the user's phenomenal awareness. When that happens, the difference between "in imagination" and "in vivo" treatments also disappears.

How can therapists obtain that result? In most of the work in this area, VR designers try to achieve the disappearance of mediation by providing to the user a more realistic experience, such as adding physical qualities to virtual objects. For instance, Hoffman and colleagues (Hoffman, Hollander, Schroeder, Rousseau, & Furness III, 1998) published an article in *Virtual Reality* about the results of two experiments in which they tried to verify whether adding olfactory cues and tactile feedback to a virtual environment improved its sense of presence.

Is this focus on the physical characteristics of a VE necessary? As suggested in another article (Sastry & Boyd, 1998), more than the richness of available images, the sensation of presence depends on the level of interaction/interactivity that actors have in both the real and simulated environments. According to Sastry and Boyd, a VE, particularly when it is used for real world applications, is effective when "the user is able to navigate, select, pick, move, and manipulate an object much more naturally" (p. 235). In that sense, the emphasis shifts from the quality of image to the freedom of movement, from the graphic perfection of the system to the actions of actors in the environment.

> Experience of space will depend more on the mode of locomotion than on the visual and acoustic images. The reality of a surface will be in its implications for action (e.g., does it impede locomotion) rather than in its appearance (e.g., does it look like a wall). In this approach, the reality of experience is defined relative to functionality, rather than to appearances. (Flach & Holden, 1998, p. 93)

Creating a Relationship

It is well known that a core feature of any form of psychological therapy is the relationship between client and therapist. However, understanding how to use VR to support that relationship presents a substantial challenge for the designers and users of clinically oriented VEs. The challenge is even more demanding when we consider the design of multiuser VEs.

Because VEs are designed to serve a purpose, that design must expicitly consider the intended users' tasks and goals (Rodden, Mariani, & Clair, 1992).

Moreover, during the VR experience, the knowledge relevant to the goal should be distributed, and actions should be coordinated. In particular, to support collaborative activities, VEs should provide task-appropriate information representation and communication tools that are embedded in the environment in which activities happen (Churchill & Snowden, 1998).

The possibility of negotiation, both of actions and of their meaning, has a key role in providing a satisfactory sense of presence. This is even truer for clinically oriented VEs for which empathy and communication are the key features. However, individuals vary tremendously in their negotiation strategies as well as in their task accomplishment process (Churchill & Snowden, 1998). The difficulty of managing negotiation has the following two consequences for the design of clinical oriented VEs:

1. The only way to understand negotiation is by analyzing the participants involved in the environment in which they operate. This means that the social context in which the VR experience occurs plays a crucial role.
2. New processes and activities will develop during interactions that can challenge and change the initial relationship between subject and context. Clinically oriented VEs have to be flexible enough to handle these changes without imposing constraints to the interaction (Riva, 1999a, pp. 95-96).

Churchill and Snowdon (1998, pp. 5–7) recently identified a series of key issues that a VE developer has to face for supporting the negotiation process:

The transition between shared and individual activities: Actors should know what is currently being done and what has been done in the context of the task goals.

Flexible and multiple viewpoints and representations: Tasks often need use of multiple representations each tailored to a different point of view and different subtasks.

A shared context: The shared context is composed of symbolic references, which allow actors to orient and coordinate themselves. It includes the shared knowledge of each other's current and past activities, shared artifacts, and shared environment.

Awareness of others: This awareness includes both knowledge of shared tasks related activities and the sense of co-presence.

Support of communication activities: Negotiation through face-to-face talks is important for collaboration. In fact, conversation analysis studies of negotiation at work have detailed how subtle verbal and nonverbal contribute to such negotiation.

Accomplishing this is more difficult in VR than in other computer-based activities. As noted by Oravec (1996), VR forces individuals "to deal with such issues of image manipulation and distortion on an immediate and per-

sonal basis, as participants immersed in fast-moving interaction" (p. 51). That adds layers of complexity to an already overwhelming set of social constructs.

To overcome that problem, VR designers usually use some tricks. For instance, more of the effort of the design of multiuser VR is focused toward developing tools for the creation of faces. That choice reflects the considerable societal attention on the face as a medium for expression and information display. Facial expressions exceed verbal reports to enhance context comprehension. Generally, the development of multiuser VR systems calls for conceptual mechanisms with which groups can be constructed and vehicles through which groups can express themselves (Oravec, 1996).

Many developers of multiuser VR systems are aware of that and are conscious of the need to "create community" in the context of their efforts (Oravec, 1996). Even if many traditional means for creating community are not available, great effort is given to the creation of virtual town squares or meeting rooms. According to Coate (1992), the work of maintaining virtual communities is similar to the work of an innkeeper who must facilitate interaction and keep order among the patrons. If multiuser VR has to serve as community for its users, it has to embody or replace with adequate substitutes some functions of community life that parallel those commonly provided by "traditional" communities. This is even truer for the development of clinically oriented multiuser VR systems, in which the sense of community could be an important boost of therapy.

Conclusions

The great potential offered by VR derives primarily from the central role that imagination and memory occupy in psychotherapy. Those two elements, which are fundamental in the life of every one of us, present absolute and relative limits to the individual potential. By using VR as an advanced imaginal system—an experience that can reduce the gap existing between imagination and reality, one can transcend those limits. In that sense, VR can improve the efficacy of a psychological therapy because of its capability of reducing the distinction between the computer's reality and conventional reality. The experience can induce in the patient the awareness of being more skilled in the difficult operations of recovery of past experiences through memory and of foreseeing of future experiences through the imagination.

Although there is much potential for the use of immersive virtual reality environments in clinical psychology, some problems have limited its application. Some users have experienced side effects during and after exposure to virtual reality environments (Lackner, 1992), reporting symptoms similar to those experienced by users during and after exposures to simulators with wide field-of-view displays (Kennedy, Hettinger, Harm, Orfy, & Dunlap, 1996). Such side effects, collectively referred to as "simulator sickness" (Kennedy &

Stanney, 1996), are characterized by three classes of symptoms: ocular problems, such as eyestrain, blurred vision, and fatigue; disorientation and balance disturbances; and nausea. Exposure duration of less than 10 min to immersive virtual reality environments has been shown to result in significant incidences of nausea, disorientation, and ocular problems (Regan & Ramsey, 1996).

With the improvements in the VR hardware, however, the latest VR experiences are characterized by the lack of side effects and simulation sickness. Those data are confirmed in all the studies presented published after 1998 (Griffin, 1990).

We can identify two core characteristics of VR-based imaginal experience: the perceptual illusion of nonmediation and the possibility of building and sharing a common ground. The first characteristic of a satisfying virtual environment is the disappearance of mediation, a level of experience in which both the VR system and the physical environment disappear from the user's phenomenal awareness. When that happens, the user is not simply an external observer of pictures or one who passively experiences the reality created by the computer but may actively change the three-dimensional world in which he or she is acting, in a condition of complete sensorial immersion. In that way, the subject undergoing treatment perceives the advantage of being able to re-create and use a real experiential world within the walls of the clinical office of his or her own therapist.

The second characteristic is the possibility of building and sharing a common ground through the interaction process. Through interaction, individuals share empathy and, in multiuser VR, form groups that share interests. Therefore, information exchange becomes the carrier for expressing self-concept and eliciting emotional support.

Experiencing presence in a clinical VE such as a shared virtual clinic requires more than reproduction of the physical features of external reality; it requires the creation and sharing of the cultural web that makes meaningful—and therefore visible—both people and objects populating the environment.

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Let's Play *Moreno*

RORY REMER

ABSTRACT. Although Moreno was arguably one of the most creative and productive thinkers of his time, his ideas are hard to follow because of his lack of coherence. In certain instances, the theory he produced seems less a theory and more a collection of musings. In this article, the author suggests a more cogent process for examining, organizing, and extending Moreno's conceptualizations to make them a more convincing theoretical exposition, one that is more user-friendly and useful. The author presents the process as a game that any number can play and wants the rules of the game to entice more psychodramatists to play by reducing the sense of competition and promoting spontaneity, creativity, and fun. The author credits Adam Blatner with endeavoring to engage the psychodrama community in this type of endeavor.

Key words: game for psychodrama community, J. L. Moreno's theories, spontaneity

The game's afoot.
A game within a game within a game . . .

THROUGH THIS ARTICLE, I HOPE TO ENCOURAGE the psychodrama community to engage in the kind of dialectic interaction necessary to keep Moreno's conceptualization of social connections and interactions vital and developing. What I have in mind is similar to, if not the same as, what Adam Blatner has tried with little success to engender on-line, using the ASGPP listserve (Grouptalk). I want to review the rules of the game, as Blatner has developed them; to examine why they do not work well on the Internet; and to modify them accordingly. I address that goal by sharing part of my perspective on Social Atom Theory (SAT) in a manner different from that which has been employed by others (e.g., Remer, 2000).

Background

I attribute the game and offer a tribute to Blatner so that readers understand what and how he contributed to my impetus for the game. Recently, my wife and I were visiting the Blatners. Both Blatners, bright people and strong presences, like to explore any and every topic that arises in intellectual conversation. Because the four of us have been immersed in sociometric theory and applica-

tion for a long time, we find those a common ground, and often a focal point, for most of our discussions, regardless of how far afield the topic happens to be.

Although Blatner has always been interested in a wide variety of areas and perspectives, in the past I have often found our interactions somewhat daunting. Despite verbal encouragement to engage in the give-and-take of a dialectic process, I have been hesitant and reticent. At this visit, however, Blatner explicitly changed the rules of the game. He consciously made an effort to distribute the "gives" (offering information, views, and opinions) and the "takes" (listening, paraphrasing, questioning, and clarifying) evenly—often acknowledging his own tendency to want to be the giver rather than the taker. The change had a significant impact for me, opening up the process and affecting its tenor. It also led to conceptualizing this process as a kind of game.

Making a Game of It

The interaction with the Blatners was fun, exciting, and energizing. It was also productive. We were children at play, and just like them, we learned from and enjoyed each other and ourselves. That atmosphere was essential to both the process and the product. The idea of considering the exchange as a game occurred to me, because of the fun and informality and because structuring some rules to help us and others do it again in the future seemed possible and beneficial. (That Blatner & Blatner [1988] have talked about adult play did not hurt either.)

Why a Game

To a mathematician, the mention of interpersonal relationships brings to mind models generated by game theory. Those games are predominantly predicated on competition (zero-sum games), with little attention to cooperation, except as the teams compete. The game proposed here is very cooperative and certainly not zero-sum.

The idea of an interaction's being a game has certain connotations. Games are played; they need not be taken seriously (not that at times they are not). Games can be fun (not that at times they are not). Games usually are not "real life," so mistakes are expected and are not irreparable (not that they are not at times). Games have rules.

The Rules of the Game

The name of the game is *Moreno*. Why *Moreno*? Because it is triggered by the challenge inherent in the way Moreno presented his thoughts, ideas, conceptualizations—that is, by trying to read and make meaning from his writ-

ings. The process employs Moreno's (1951, 1953) Canon of Creativity with the interplay of conserve and spontaneity and chaotic dialectic interaction in which making meaning is a self-affine and fractal-generating process (Remer, 1996, 2000). Although the game grew from examining the validity and contributions of Moreno's conceptualizations in relation to their being a cogent theory, it can be played with whatever ideas one desires to apply to it.

The rules of the game are as follows:

1. Suspend evaluation as much as possible, at least in a challenging sense. The goal is exploration. Participants' being genuinely inquisitive and interested fosters the type of interaction that is most productive. Actively listen to all that the presenter of an idea has to say before responding. When responding, start by reflecting or repeating the meaning of what has been said, as you understand it. Clarify what is misunderstood until an adequately common meaning is reached. Then react or question. Nothing is gained by responding before you and the others know to what you are reacting. In fact, in many cases, those involved in the interaction have a clearer understanding and an accurate knowledge of the specifics as a result of the active-listening process.
2. Before disagreeing or adding to someone else's comments, acknowledge the content with which you agree. Being heard and validated, even if only in part, nurtures one's sense of trust and safety in the interaction.
3. Take turns, using the first two rules. Give and take from those involved in the interaction is necessary. Everyone needs and has the right to be heard and validated. By doing so, not only can the immediate interaction be furthered, but future ones will also be promoted.
4. If any of the preceding rules is violated, gently inform the transgressor. If the problem continues, intervene more assertively. Do not allow the rules to be ignored.

Although the rules are relatively few, simple to state, and probably familiar, being the same as those for group or couples therapy, their implementation is another matter. Blatner warned of succumbing to the strong tendency to slip into a more challenging mode. Reminding oneself to stay with and trust in the process is a good additional rule to keep in mind. The game should be played interactively, dynamically, and irreverently, but that applies to the content, not to the players.

Playing the Game With Social Atom Theory

The idea of characterizing this interaction as a game started with Blatner's asking me to explain why I value SAT as highly as I do. SAT seemed the most appropriate example for this article. To illustrate what happens, I present part

of a dialogue between Blatner (B) and myself (R). The game starts with Blatner speaking.

B: You and I disagree on the value of SAT as viable theory. I'd like to hear why you think it is a valuable theory.

R: OK. I guess because I find SAT useful.

B: How so?

R: Like any good theory, it focuses on a phenomenon that requires description.

B: I'm not sure I'd call Moreno's ideas a theory—maybe more a collection of insights and speculations that has been exceptionally productive and provocative. What makes them a theory?

R: I would agree that the ideas are somewhat loose and Moreno's way of writing isn't easy to follow. Still the constructs do form connections, a nomethetic net. So it does have descriptive, if not explanatory, power. I think it does have heuristic worth.

B: What would you say it explains?

R: Well it helps me describe and explain some things about relationships. How long-term relationships happen and are maintained.

B: Fine. I'll buy that, but what does it do for us that other social psychology explanations don't?

R: I'm not sure it does describe anything not covered by other theories. I'm not sure it needs to. It does give me a tool to help others understand some of the difficulties they are experiencing and what to do about them.

B: For example?

R: Well, say you move to a new place. How do you go about making social connections? You know, by looking for collectives to join.

B: So SAT, or at least the implication you draw from it, says to look for others you can resonate with. What more is there to say than go find people you share interests with?

R: SAT does a bit more than just say to find people with whom you have something in common. It suggests how to identify those groups and once you do, how to make connections.

B: Maybe it does offer some ideas about how to locate collectives, but how does it help in making connections?

R: Well, take me for example. I'm usually fairly uncomfortable in new groups. I see myself as a closet introvert. After I get to know people, I'm OK. So I have a hard time getting into conversations.

B: You don't find meeting new people easy. How does SAT help after you locate a group to get involved with?

R: First, SAT defines a collective explicitly. As a group of people sharing a common interest, I know I will have a common warm-up with the group members.

B: A collective by definition has a purpose. Fine. And . . . ?

R: Say you go to a group meeting, like a cocktail party, for instance. You walk in knowing you have to find someone to connect with and that isn't going to be easy. So whom do you choose? Because you are an isolate, at least as far as this group is concerned, you look for people who most likely will be easy to meet. You don't look to break into conversations between those who look as if they know each other—at least I don't. You look for other possible isolates. Who are they? Well, they are the people like me on the periphery of the group.

B: That sounds like a good idea, something different and useful. I don't think of that as part of SAT though.

R: True, that part comes from sociometry, but the two are linked. I also don't think SAT helps much with the actual ways to interact, but other parts of sociometric theory, such as spontaneity and role training, do.

B: Say more about what makes you react more to some people than others.

R: Now we're talking about why people are at different levels of a social atom. I think those bonds are influenced by mutual warm-ups. It's more than just warm-ups though. I think role reciprocities and telic bonds figure in. The more of any of those influences, the stronger the relationship.

Our interaction continued for quite a while, focusing on the particulars of SAT, such as the quantitative and qualitative aspects of social atom levels, and moving off to such related tangential areas as the connections to other subtheories and to such theories as the Chaos Theory (ChT). It produced a clarification of some ideas and links with others that I had not recognized previously. I also realized that my understanding of SAT was not quite the same as the understanding of those from whom the theory had sprung. I had added some nuances, redefined a few terms, and made useful connections to other ideas, much of which I had not articulated clearly and had not communicated to others. That realization became the motivation for my clarifying the formulation of SAT and reporting it (Remer, 2001).

Social Atom Theory—A Conceptualization

Some closure to the previous dialogue is needed. To provide that closure; to present a possible product; to lead to some further observations about SAT as a viable theory; and, most important, to present a contrasting form for discussing the benefits of and problems with this type of interaction, I developed

my formulation of SAT, which is printed in the companion article in this issue of *The International Journal of Action Methods* (pp. 74–83). It is brief, but complete enough I hope, to promote further dialogue about the process and its viability as a theory.

When playing *Moreno* with SAT, there are specific points of reflection. They can serve as avenues for further exploration of the development of SAT and as models for the kinds of explorations the game is designed to provoke.

If Moreno were alive today, one can suppose that he would likely formulate his ideas about bonding along the atomic rather than the astronomic perspective. He would be borrowing from the theories of strong and weak atomic forces, such as electron-proton bonds. Who knows what he might have done with mesons, quarks, and the like to suggest analogies for interpersonal positive and negative warm-ups and the intrapsychic spontaneity processes. The possibilities of such metaphors generate the following questions that are interesting to contemplate and perhaps heuristic as well:

- Is tele, like an electrical charge, an on/off phenomenon, or is it always present to some degree?

If tele could be measured, could mathematical models be generated to calculate how much is present in a relationship?

- Are models other than "gravitational attraction" better fits for explaining the interactive complexity of attractions (e.g., "the hunter/prey function" from the Chaos theory) between two people or among more than two (the "three-object problem")? Would other models better explain the variations in the patterns of relationships (e.g., sensitivities to conditions—the "butterfly" effect)?
- Is the number of the relationships one is able to maintain at different levels of the social atom bounded? How many warm-ups or role reciprocities are needed to move between levels? How are the numbers determined or influenced by resources available? Are they the same for every individual?
- Could the threshold (quantum leap) characteristic of moving between levels be informed by looking at how mathematicians address such discontinuities (e.g., the Heaviside function, functionals)?

Such questions are worth contemplating.

Pros and Cons of the Game

Let's return to the idea of using a game approach to engender involvement and interaction that will produce theoretical insights and modifications. The game approach has some pluses and some problems that need to be overcome or accepted as limitations.

Pluses: Production of New Insights and Extensions

If played by the rules, the game has much to offer for the production of new insights and extensions of SAT or any other theory. Like brainstorming, the process is designed to promote a synergistic interaction, based on cooperation and pooling of knowledge rather than on competition. The more input from participants with diverse backgrounds and styles in the production of new patterns of understanding, the more creative the output. As a "making meaning," process, this one is chaotic (Remer, 1996, 2000) and, as such, it yields variations that are novel, yet incorporate the previous patterns of understanding. Moreno would probably label it "creativity" or "spontaneity" because it incorporates the Canon of Creativity (Moreno, 1951; Remer, 1996).

The game is chaotic, according to ChT definition. As such, applying ChT perspective (e.g., viewing the process as mapping different aspects of the phase space of the phenomenon in question) allows better understanding of the "game" process (i.e., its self-affine, fractal, and self-organizing nature) and what it has to offer (Remer, 2000). The dynamic qualities demand interaction in a social sense and produce interaction in a mathematical sense; the more the better. Accordingly, immediacy is optimal, because it promotes the most spontaneity and least evaluation. The immediacy, particularly in contrast to a written manuscript, also provides an opportunity for recognition of the lack of understanding. Unfamiliar terms (e.g., pheromones, Heaviside function, functional, self-affine, fractal, self-organizing, butterfly effect, and even tele/telic bond, sociometry, and sociostasis) or metaphors (e.g., hunter/prey, three-object problem, the physical atom) can be defined or clarified, promoting cross-fertilization of ideas from different individuals, disciplines, cultures, schools, theories, or whatever (see Remer, 2001). Although these conditions encourage high energy, the dynamism is a drawback.

Minuses: Challenges to Further Development and Use

One benefit of a slower process, like the writing of and reacting to a manuscript, is having a product—a conserve. The preservation of the ideas generated allows more reflection on what is being said and makes the loss of any potential resources less likely. The conserve, however, is more open to interpretation without clarification and correction of misperceptions and misconceptions of all participants—at least without problematic time lag. And, frankly, live, immediate interaction is more fun.

If the game is played on-line, establishing the rules of the game is more difficult. People enter the interaction unknown to the others until they communicate their presence. Violating the rules is easier because no one is present to remind and correct or to intervene assertively in a heated exchange. Face-to-

face interactions, however, can also be more intimidating. Role and status considerations (e.g., publication, name recognition, level of credentialing) can impede interaction by making egalitarian, cooperative, collaborative relationships difficult to achieve. Facility with those types of exchanges can make the rules, even if implemented, less than optimally effective. Another disadvantage is that "getting together" and making time for playing the game is difficult. Everyone has more to do in life (e.g., gainful employment) than to play *Moreno,* no matter how gratifying the process and the outcomes.

Possible Answers and Improvements

Having played the game, I am gratified and encouraged by the outcome. I believe it offers an opportunity to further the impact of Morenean thought that publication does not. Still, its shortcomings must be recognized and addressed.

On-line dialogue or "multilogue" appears to be an optimal solution—a compromise between face-to-face interaction and publication. So why has that not worked very well, and what can be done to allow us to play the game effectively? A number of reasons come immediately to mind. First, no obvious product or record results from the interactions unless someone takes the responsibility for producing one. Even on-line interactions, which do produce annals of a sort, do not usually generate a concise, organized, easily accessible account. Second, the discussions are rather haphazard, with no scheduled time reserved for focusing on a particular topic. Third, status differences can still influence contribution. Fourth, a certain facility or comfort with technological resources and the availability of them are required.

Technology is available to overcome many of the problems. For example, Indiana University has developed a decision-making lab (Froehle, 1998) that allows immediate interaction of participants through computers, while making and preserving a record of all contributions. The contributors to the interaction are anonymous. A moderator function is also available so that all responses can be viewed or reviewed before being shared commonly. Other approaches are also available, such as conference telephone calls, distance learning, or interactive telecasting.

Organizers can arrange times to play the game face to face. Small groups of collaborators can (and already do) get together for that purpose. Time might be set aside before, after, or during conferences with the intent of convening a group to play the game on a specified topic. In fact, work groups, task forces, and conferences designed for that purpose might be arranged.

The biggest obstacle to address is the need for some cogent record of the game yield. Because of the dynamic denotation of the game, no true, finished product ever can or should be possible. At best, the game reaches a pause. Someone then organizes, summarizes, and reports the interim results. The

process and work-product can easily be as important as the final conserve and much more difficult to capture. The game, obviously, requires more consideration to tune it up.

Conclusions

I will continue to play *Moreno,* now that I have experienced its impact firsthand. The possible benefits seem worth the efforts, and its problems seem like challenges and opportunities. Any number can play—in fact, Blatner would like to see that happen. All readers are invited to play *Moreno* too. I do not know where this suggestion will take us; still such a "multilogue" should be an interesting experiment.

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Social Atom Theory Revisited

RORY REMER

ABSTRACT. Because of the lack of coherence in Moreno's writings, the theory he produced seems, in certain instances, less a theory and more a collection of musings. Some see his Social Atom Theory (SAT) as one of those cases. In this article, the author provides a more cogent formulation of the SAT, extending Moreno's conceptualization. The author also makes a more convincing theoretical exposition, one more user-friendly and useful.

Key words: elaborating on the Social Atom Theory, Moreno's Social Atom Theory, usefulness of the Social Atom Theory

THIS ARTICLE IS THE RESULT OF my playing *Moreno* (Remer, 2001). By using what we produced by playing the game with Moreno's Social Atom Theory (SAT), I can demonstrate the usefulness of the SAT and share my perspective on the SAT in a more complete manner than others have done (e.g., Remer, 2000).

Background

Adam Blatner and I have had an ongoing dialogue about Morenean thought (Blatner's description of Moreno's writings) versus sociometric theory (my description). A primary focal point has been the SAT because I view it as a viable and useful theory whereas Blatner has intense reservations. He asked me to explain why I value SAT as highly as I do. To answer, I used the SAT as the focus to propose and illustrate a dialectic process presented in an article delineating that procedure as a game (Remer, 2001) in which anyone interested in clarifying and promoting Morenean theoretical formulation can engage. That article, however, did not seem the appropriate vehicle in which to present the game product—an updated exposition of the SAT—because I deemed such an exposition a distraction from the focus on the game. That exclusion resulted in a lack of closure for anyone interested in Moreno's SAT.

I address the gap here by supplying an up-dated version of the SAT, one that can be applied by practitioners, compared with previous formulations, and used to judge the usefulness of playing *Moreno*, presented in the companion article in this issue.

Social Atom Theory (SAT)—A Conceptualization

This formulation focuses on the particulars of the SAT, which are the quantitative and qualitative aspects of social atom levels. It clarifies some ideas and links to other conceptualizations that I had not recognized previously. I also realize that my understanding of the SAT is not quite the same as the understanding of those from whom the theory sprang. I have added some nuances, redefined a few terms, and made useful connections to other ideas—much of which I had not articulated clearly or previously communicated to many others. The explication is brief but complete enough, I hope, to promote or provoke further dialogue about the SAT and the process that produced it.

A Historical Perspective on the Development of Social Atom Theory

Moreno (1951, 1953) conceived the Social Atom Theory as a sub-theory of his general Sociometric Theory (i.e., psychodrama/enactment theory, role theory, sociometry, social atom theory, and spontaneity/encounter theory). Moreno showed remarkable insight in intentionally modeling his social atom after the physical atom structure from physics. He did so because the nomenclature of atomic structure was trendy in scientific circles in that era. Wanting to lend credibility to his view, he borrowed ideas from the physical sciences. Although his conceptualization may seem more a metaphor than a theory, it does contain significant heuristic value.

Moreno intended his SAT to describe, explain, and predict how people develop and maintain long-term interpersonal relationships. Although a person's social atom fluctuates, the basic structures and components of most social atoms are, by definition, stable over time. Many are exceptionally so.

My version presented here stems from Moreno's work but owes more to the interpretation and delineation developed by the Hollanders (Hollander, 1978), but some aspects and clarifications are uniquely mine. I trust that this description is consistent with those of Moreno and the Hollanders, but it is certainly not the same.

Composition of the Social Atom

The social atom is divided into four levels, with the individual at its center: acquaintanceship, collective atom, individual atom, and psychological atom.

Each level contains the succeeding levels (see Figure 1), containing evidence of necessary but not sufficient conditions for belonging to succeeding levels. The first level, acquaintanceship, is composed of all people of whom one is aware, although they may not be aware of the individual. From this acquaintanceship volume come the people on the other levels. The second level is the collective or social atom, which comprises all the collectives to which one belongs at the time the social atom is examined. The collectives are all the groups of persons to which one belongs—a church congregation, school class, office staff, team, or tour group. The next level is the individual or social atom.

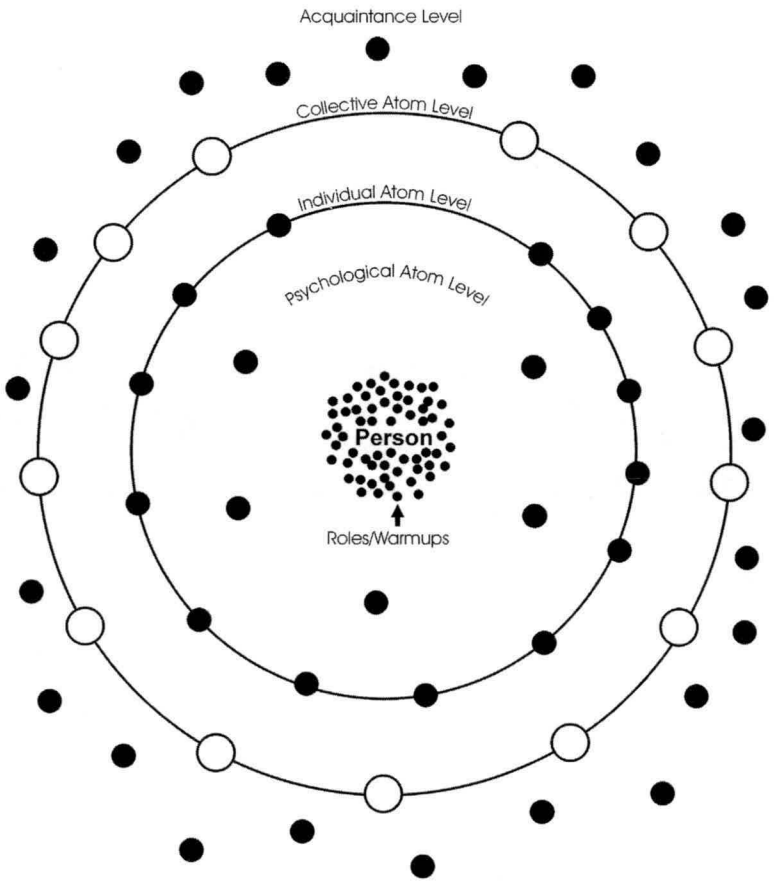

FIGURE 1. An Updated Version of Moreno's Social Atom.

No good term, except *individual atom member*, has been coined to describe those persons belonging to that level. I hesitate to label them *friends* because of the wide disparity in personal meaning engendered by that term. Individual atom member serves the purpose of describing those relationships that are between the minimal and maximal involvements one has in one's life. The final level, the inner ring of the social atom, is the psychological atom, populated by those persons essential to one's social and psychological well-being, the sociostasis.

Criteria for Belonging to Levels

The reasons that a person belongs to a certain level or changes from one level to another can be explained in terms of shared warm-ups, telic bonds, or role reciprocities. Note that, by necessity, each of the terms shares a relational emphasis. The constructs are different and meant to be so. Not only are they not mutually exclusive, but also they are synchronic and synergistic.

At the acquaintanceship level, a relationship barely exists, if, in fact such is in evidence at all. Certainly, although a warm-up may be engendered, it is not necessarily shared. For example, someone can become excited about seeing a public figure without that figure even knowing the person exists. Another example is the warm-up minimally shared when one nods to someone in a hallway. Telic bonds and role reciprocity, both of which require active mutual involvement, are nonexistent. The collective level requires minimally more interaction.

Being members of the same collective requires only a minimal relationship. A collective can exist almost indefinitely (e.g., a church congregation) or briefly (e.g., people riding on a bus). People belonging to a collective can be transitory and interchangeable. By definition, people in collectives gather for at least one common aim. Thus they are guaranteed of having at least one thing in common and sharing at least one common warm-up and a minimal tele. In fact, only one mutual warm-up, addressing the one purpose of the collective's existence, needs to occur. Similarly, one role reciprocity that allows people to work together toward the collective's goal must exist. More connectedness usually leads to the individual atom level.

From the collectives come those people who become members of one's individual social atom. Those people are more important in one's life, demonstrating stronger reciprocal attachments. A person shares multiple interests with those in his or her individual social atom, experiencing multiple warm-ups and stronger tele. No matter how strong the connections with those persons, they are still not indispensable to the individual. They are not exactly interchangeable, but when they move out of one's active interactions, others serving similar warm-ups and role reciprocities enter. Such is not the case for those people at one's psychological atom level.

One's strongest connections are to those in one's psychological social atom. Those people—best friends, life-partners, highly significant others—are the core of one's existence, virtually indispensable and irreplaceable by virtue of the number, complexity, uniqueness, and interactive (in a statistical sense) aspects of warm-ups shared. They are so highly telic with the individual that the bonds often seem, and perhaps are, mystical. Role reciprocities are many and varied and perhaps even negative, and those make the presence of those people integral to one's life even when others, who may serve similar functions at times, are not available.

Entering the Social Atom and Moving Between Levels

People enter one's life and leave—some temporarily, some permanently. Their importance is dynamic, shifting over time and situations. This description may sound contradictory to the previous statements that the social atom structure is relatively stable over time and that relationships are more enduring. It is at this seeming discrepancy that the Chaos Theory enters the mix. Understanding the SAT allows us to posit how changes in relationships occur and, to some degree, what influences those changes.

The logical, ordinal (cum interval) characteristics of the social atom structure help describe, if not explain, how the dynamics of relationships evolve. Although choices can be made to influence their evolution, to a large degree, relationships develop in a less-conscious, uncontrolled manner. The circumstances that promote reciprocity in warm-ups and role enactments and increases in tele can be induced, but relationships rarely, if ever, can be planned or controlled.

Perhaps the most control we have in developing relationships is at the collective level. Most collectives are not only well defined but also open to people to join, as long as those people share the required aim (warm-up). Expanding one's collective social atom requires finding groups with which one shares common interests and joining those groups. The groups provide the base from which to develop further relationships and relationships further.

Once a collective has been entered, individuals are available with whom to interact and with whom at least one mutual warm-up is guaranteed. The proximity of individuals with some telic bond and minimal role reciprocity ensures some base on which to build a stronger relationship, thus reducing the risk necessary to deepen or expand it. The extension of the relationship depends on finding or developing more bonds through mutual warm-ups and role reciprocities and cultivating trust or increasing tele. Collectives supply the opportunities, but individuals must take advantage of those chances. If the relationships do become more connected, the people involved transcend the collective; that is, interactions with others that occur across more situations

are invited and are more comfortable. Trust or tele grows. The relationships also become more complex.

The most complex relationships are those at the psychological atom level. Some people would describe them as simpler or more unitary, using the terms *love* and *soul mate* to describe them. Examining them for warm-ups, role reciprocities, and tele shows just how complicated and phenomenological or irreducible they are. They cannot be dissected and easily explained or predicted. In fact, even with the help of pheromones, the depths of those relationships defy explanation and cannot be designed or "pushed." Whereas they usually grow over time through contact, shared experiences, and increased risk taking in openness and emotional availability, they can often be elevated to this level with a sudden realization of their strength and importance. In them, tele is strong; role reciprocities and mutual warm-ups are multiple. That is not to imply that all is positive or always comfortable, but even at times of conflict, the sense of the connectedness is still present and the threat of loss of that bond is very scary.

Although a quantitative aspect to movement from level to level is present—increasing the number of mutual warm-ups and role reciprocities and strength of telic bonds—a qualitative difference is also there. The "feel" to a collective-level relationship is different from an individual-level one and is different from one at the psychological level.

Insights From the Physical Atom

At this juncture, the heuristic advantage of employing the physical atom as a metaphor or model for the social atom becomes both useful and obvious. The metaphor helps in our understanding of the qualitative sense involved and in suggesting how the bonds are strengthened, although not how they are created and how and why relationships move from level to level.

For changes in level, both literally and figuratively, a quantum leap is required, like the movement of electrons from ring to ring. The energy invested in a relationship builds through the quantity and diversity of interaction until suddenly and uncontrollably the level of the relationship shifts. Although the conditions for such an energy increase can be induced (e.g., you can bring people together in a group, thus helping them go from nothing to acquaintanceship and even to collective contact), the transitions occur somewhat unpredictably. The deeper the level, the more energy is needed. At that level, there is less room available for people who cannot invest that degree of energy (time availability may be the most limiting factor). To maintain relationships at deeper levels, mutual energy contribution is necessary, but that energy need not be in kind (i.e., quid pro quo is not necessary and ledger book mentalities are not per se helpful).

Level shifts occur in the other direction as well. Without adequate mutuality, as perceived by the individuals in the relationship, the relationship will not be maintained at the given level. The level will not shift immediately if the energy fluctuates, but over time, the relationship can lose sufficient energy to change. One member of the relationship can maintain the level for a while, but eventually without both people committing resources, the relationship is bound to change, moving to the lowest level dictated by common energy investment.

Another Morenean metaphor that helps in understanding the strength and level of a relationship is the *Law of Social Gravitation*, which is not an atomic concept but still borrowed from the physical sciences. Moreno (1951, 1953) suggested that the pair-bond strength is directly related to the degree of attraction between two individuals and inversely related to their repulsion and the physical distance between them. If those constructs were quantifiable, the veracity of his conceptualization as a model might be directly testable. In the meantime, it does convey important insights into relationships and makes intuitive sense.

If Moreno were alive today, one might conjecture that he would more likely formulate his ideas about bonding to be more consistent with the atomic rather than the astronomic perspective, by borrowing from the theories of strong and weak atomic forces (e.g., electron-proton bonds). Who knows what he could have done with mesons, quarks, and the like to suggest analogies for interpersonal positive and negative warm-ups and intrapsychic spontaneity processes. Pushing such metaphors generates the following questions, which are intriguing to contemplate and perhaps heuristic as well:

- Is tele, like an electrical charge, an on/off thing or is it always present to some degree?
- If tele could be measured, could mathematical models be generated to calculate how much is present in a relationship?
- Are models other than gravitational attraction better fits for explaining the interactive complexity of attractions (e.g., the hunter/prey function from Chaos theory) between two people or among more than two (the three-object problem)? Would other models better describe and explain variations in the patterns of relationships (e.g., sensitivities to conditions—the butterfly effect)?
- Is the number of people and relationships one can maintain at different levels of the social atom bounded? How many warm-ups or role reciprocities are needed to move between levels? How are the numbers determined or influenced by resources available? Are they the same for every individual?
- Could the threshold (quantum leap) characteristic of moving between levels be informed by looking at how mathematicians attempt to address such discontinuities (e.g., the Heaviside function, functionals)?

Those questions and others are worth contemplating, and because they are, the SAT possesses heuristic value. But, is that quality enough to make the SAT a true theory?

A Beneficial Example: Moving

One test of the strength of a theory is whether it provides a map for negotiating the challenges of real life. The SAT does just that in many situations (e.g., recidivism of criminals, coping with loss of a significant other). One situation in which the SAT proves exceptionally helpful is in a circumstance common to almost everyone, moving to a new place to live. Moving requires the reorganization of at least some of one's social atom. Even relocating to a locale where one has lived previously presents an awkward, uncomfortable period of adjustment. What can the SAT tell us about what to expect in negotiating such transitions?

When one arrives in a new venue, one's immediate social atom constituents are minimal, except perhaps for one's psychological atom. Knowing few others directly, sociostasis is severely disrupted. To reinstitute a sense of social and psychological comfort, the social atom must be reestablished. The key is at the collective level.

Because many collectives are open to anyone with an interest in the group, they offer an optimal entry point to meeting new people under conditions designed to foster interaction around a predictably mutual warm-up. In fact, many organizations and communities have newcomers groups specifically for this purpose. Choosing someone with whom to start can still be difficult. Here, the connection of social atom to sociometry can be helpful. Who are the most likely candidates to be available for and desirous of investing time and energy in a new relationship? The isolates or rejectees of the collective, those on the periphery of the group, are like oneself. Although the collective may provide a sufficient base for developing a relationship for those more outward-going individuals, one usually needs more than one connection to build a new social atom. Initial interactions around only one focal point in a mutual warm-up tend to be short and often stilted, forced, and uncomfortable. The interaction must be extended.

Extensions can occur in a number of ways. By joining other collectives and attending their meetings, one will probably notice individuals who belong in common to more than one collective, indicating more than one mutual warm-up and also increasing the strength of the acquaintanceship connection. By returning a number of times to the collective, one's familiarity with the group members and more common warm-ups related to previous group interactions will likely result. By switching topics during the initial interaction, more mutual warm-ups may be discovered. By planning interactions outside the

scope of the collective, such as attending the meetings of other collectives with similar aims, meeting for coffee, or going to a social event, one can increase exposure. Granted those options are the most direct and, therefore, the riskiest. From relationship extensions come the increases in tele and role reciprocities that produce individual atom-level affinities.

Developing relationships at the psychological level requires more of the same increase in exposure and, commensurately, more risk taking. That level of relationships can evolve in a tight group in which people are functioning more or less at an individual level with each other but are at the point of transcending to the psychological level where person-to-person contact is required. As far as I know, no prescription exits to guarantee that a relationship will move to individual status, let alone psychological status, much as we might like it to move there.

Some Strengths and Weaknesses of the SAT Formulation

The formulation of the SAT is by no means flawless. Like all theories, it does not account for all the nuances of the phenomenon it seeks to address; like all theories, it does not offer perfect description or predictability. The question of whether it should be applied, adapted, or discarded is a matter of how adequate the theory is to the purposes of all theories, offering description, explanation, prediction.

From my perspective, the SAT is at least adequate, as I have already indicated. In addition, the theory has other strengths. It is relatively easily explained and comprehensible to most people. It possesses heuristic value and explanatory power through analogies and strong parallels to the physical atom. It can be tied to other sociometric subtheories, providing common concepts, constructs, and processes necessary for broader applicability to sociometry and role theory. It is helpful for assessing the social health of an individual and useful in making changes, suggesting interventions, and planning actions.

Although I have a harder time seeing the problems of the SAT, I know they exist. A few that do come to mind are the inadequate or incomplete explanations for such central constructs as tele, warm-up, and role reciprocity. (Although that is a seeming failing of the theory, I doubt such explanations are possible. Those are phenomena, recognizable to almost everyone but virtually impossible to describe reductionistically. Also for its present use, how important is knowing more specifically what tele is, as long as it helps describe or predict the relationship patterns generated?) The theory lacks the specificity of the nomothetic net and connections to theories from other areas or disciplines dealing with the same or similar phenomena. Others have little familiarity with the theory.

Those weaknesses and others that can be delineated by those interested in

the phenomenon of long-term interpersonal relationships need to be addressed. A way to do that is to play the *Moreno* game.

Conclusion

I have demonstrated that Social Atom Theory is not only a theory in a true sense but also a viable, useful one. I hope my exposition leads to its being used as a map to help clients and practitioners navigate the patterns of long-term relationships.

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Book Reviews

Gathering Voices: Essays on Playback Theatre, edited by Jonathan Fox and Heinrich Dauber. 1999. New Paltz, NY: Tusitala.

The need to give order and to understand meaning in life may be a uniquely human experience, coupled as it is with the wish to understand our small part in the larger reality of our world. The wish to speak and to be heard and understood is a core part of being human, as everyone, from mental health workers to advertising tycoons knows. Freud's patient, for example, spoke of the "talking cure," AT&T tells us to "reach out and touch someone," and a billboard proclaims: "Everyone has a story. Tell us yours." What all these concepts have in common is the need to connect, listen, and tell. And that is the heart of Playback Theatre, the brainchild of Jonathan Fox. The hunger for this new, yet old, art form, which can connect people and ideas and which is practiced in more than 30 countries, spread over five continents, can be gauged by the rapid growth of Fox's now-international organization.

Gathering Voices: Essays on Playback Theatre, coedited by Jonathan Fox and Heinrich Dauber, is a record of the experiences, thoughts, and research of many playback practitioners who have been trained by Fox, Jo Salas (his wife and close colleague), and others. In this slim volume, 16 authors with different frames of reference, practicing in diverse settings and different countries, attempt to grapple with the core concepts inherent in this art form. In interesting short essays, those who gathered at the 1997 Symposium at the University of Kassel in Germany write of their experiences, theories, and practices. Interwoven in the writings is an evident effort to learn, know, and grow.

The book begins with a brief introduction by Fox, who writes of the origins of Playback Theatre. He tells us that he gradually conceived of the idea of playback when he returned to the United States in 1975. He imagined a kind of spontaneous theater, with its roots in the oral tradition of storytelling but centered in the community, as was Moreno's Stegreiftheatre in Vienna. Fox's idea was straightforward: Bring together trained actors, add music and

movement, and enact a story told by a self-selected teller. Fox wanted immediate theater, which could take place anywhere for anyone and where individuals could enact the thoughts, feelings, and memories of present and past. As is abundantly clear, today perhaps more than ever, there is a hunger for experiences like playback—a need to see and feel, to hear and be heard, to knit chaotic fragments into a whole to make meaning and promote healing. Living as we do in a frighteningly impersonal world, with fragile families and chaotic communities, we find that playback, at its best, can give meaning and dignity to the teller and to those who watch—and listen. Although therapeutic, it is not therapy or psychodrama or shamanism, although it incorporates aspects of each. Private stories become public, and, through playback, the tellers and the listeners share an educational/therapeutic/artistic experience.

Even as the authors of those chapters tell us of their experiences, they also, in one way or another, grapple with fundamental questions: What is playback, its mission, its "widening scope," and its limitations? How does one address the dynamic tension between process and product, especially when there is an audience of strangers who have paid a fee and expect to be entertained? In such a situation, the leaders stress the importance of strengthening trust and safety with the group and speak of the unavoidable conflicts between aesthetics and good theater on the one hand and therapeutic benefit and broadened social awareness on the other. Directly or indirectly, many offer their definition of playback. Some emphasize theater, others education, or a variant of therapy, psychodrama, or sociometry, or a mixture of all the above. One cannot help but be impressed by the seriousness of the work and the writers' attempts to explain what they are doing and why.

As sometimes happens in a book with many contributors, the work is somewhat uneven. The chapters vary in writing style, format, length, and complexity. Because the authors have different backgrounds, they use key words and concepts differently; some portions of the text are powerfully written, others are difficult to follow. Nevertheless, certain themes emerge in a repetitive way, giving the flavor of the core principles of playback.

What is most impressive about the book is how seriously the authors take their work. The thought, effort, and principles of respect and care for others that underlie their work are admirable. In one way or another, the authors talk about listening with respect to the teller and listening for the fullness of the story as it is without "psychologizing" the content. To do any psychologizing, we are told, risks contaminating the content. Jozsef Paradi tells us, for example, that in working with dreams, it is best to resist the temptation to be concerned with the deeper layers of meaning and to avoid "interpretive enactment" (p. 40), a belief echoed by others. But whether the setting is Germany, Northern Ireland, or New Zealand, we realize that through playback, entrenched ideologies can confront each other and that individuals and com-

munities can be empowered with the possibility of healing old wounds because each is heard and treated respectfully.

Take just one example among many. In a recorded interview between Fox and Uschi Sperling, a German woman who came to the United States for training, Sperling spoke of growing up in Nazi Germany, where suppression or repression was necessary to protect oneself. One needed to be silent about what one heard, saw, and felt because people thought, "if you didn't talk, it would go away" (p. 136). Among many powerful ideas in that short piece is a reminder that such experiences are therapeutic because shame is diminished. "Shame," she said, "is bigger than fear. And when shame disappears, then you are free. And you do not forget it, but you do not feel the shame about what you went through and where you came from" (p. 144).

Gradually in the interview, we learn that Sperling's stepfather was a Nazi officer who fled after the war to escape imprisonment. Then we learn that she recently met a biological sister, and she also discovered that her biological father, an engineer, designed rockets for Werner von Braun, working next to a concentration camp. "When it's a story about Nazis in the family, it has to be about human beings, not stereotypes. The most terrible thing for us in my generation is to realize that the fathers whom we knew and loved and who were good in some ways also took part in evil. And they are one person" (p. 150).

Sperling reminds us that we all have two sides, that this is not just a Nazi theme. It is important to show the two sides because "the basic idea of playback is an aesthetic one, that beauty can hold the most difficult truth and make it possible for us to see. That's what art can do. Stories live in our memories and our hearts" (p. 151). One can only imagine how it felt for this German woman to tell Fox, a Jew, about her memories, long buried in shame and pain. Of their discussion, Fox wrote, "Merely to dialogue about emerging from silence was a challenge that took all our strength." And we, too, can learn and be strengthened from reading this fine book.

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How We See God and Why It Matters: A Multicultural View Through Children's Drawings and Stories, by Robert J. Landy. 2001. Springfield, IL: Charles C. Thomas.

The title of this book immediately impressed me, because I agree with it, especially the first part. As I have discussed in the fourth and latest edition of

Foundations of Psychodrama. I think that our image of God—whether viewed as a harsh judge, a capricious king, or the unending source of creativity and spontaneity arising within the soul of every being—affects the way we feel about ourselves, others, the world, and how we should behave.

In his book, Robert Landy relates in part his own spiritual journey, similar to that of Peter Pitzele (1992) in *Our Father's Wells.* In part, Landy uses some qualitative research, asking children in many different regions and countries to draw a picture of God and tell a story about the picture. During the interviews, drama and role playing were indirectly involved because the interviewer asked each child the following questions:

> If you were God in this picture, what are you saying?
>
> Are you speaking to anybody or anything?
>
> Whom are you speaking to?

After hearing the child's reply, the interviewer responded, "I am now going to play God and speak the words you just spoke. You will be the person or thing God is speaking to. Please answer in any way you want. Tell me who you are (as the person God is speaking to). What is your name? Can you make up a title for the picture? What is the picture called? Is there anything else you want to say about the picture or about the role play?" (pp. 5–6).

Landy thus deepens the ordinary interviewing techniques by adding a measure of dramatic interaction, which brings forth some depth and involvement that might not happen if it were just a matter of giving answers to an adult. Landy adds dramatic tension to the imagined encounters by directing the interviewer to ask, if there are no antagonistic, bad, or malevolent characters in the picture, "Does God have any enemies, anyone who wants to fight God? If so, can you name them and tell me something about them? If you'd like, add the enemies to your picture." The interviewer then invited the child to tell more about various unclear symbols in the picture. At the close of the session, the interviewer asked, "Do you believe in God?" and then elicited more detail from the child about that answer.

I found this program for interviewing most thought provoking. In one sense, it is naive, simple, and appropriate for the author's task. In another sense, when I imagine this interview technique being applied to adults or older teenagers, I believe it would cut through many layers of rationalization and touch the underlying mythic paradigm. In that regard, it is almost like dream work or the analytical psychology technique of active imagination.

Landy used this approach as a supplementary research activity during his many international travels, as a teacher of drama therapy. He also had a number of friends and colleagues use the approach to interview children in areas where he could not travel. The children, ranging from age 6 through 11, were

from many religious backgrounds and countries, and their stories make up the bulk of the book. As a thread through the book, the author wove his experiences with his own children and his own reflections on the evolution of his own spirituality.

Nearing the end of the book, Landy presents his results, not in a statistical fashion but rather more as a means to discern the themes brought out. Those revealed contradictions and pairs of opposites: God is present and absent, human and superhuman, like us and very different from us, masculine and feminine, calm and agitated, and so forth. His conclusion (pp. 205–206) reminds me of a question an interviewer once asked Carl Jung: "What do you know about God?" Jung answered, "I don't know anything about God. I only know about what people think about God."

The author is still on his own spiritual pilgrimage and has not come to closure. This inquiry has served as a catalyst for him and also as a way of expressing his own still open-ended vision. At a deeper level, I discern an emerging theme that may or may not have been conscious in the author's mind: As the world continues to move through transportation and communications technologies toward more multiculturalism and integration, new and more inclusive mythic forms are emerging that begin to capture a more inclusive approach to theology. They hint at a less easily articulated meta-narrative about a spirituality beyond any particular religion, an activity of developing or deepening the sense of connection or relationship with the Greater Wholeness of Being, however this is named.

The book contributes to our growing attention to the spiritual life of children. It might also be viewed as part of a growing literature that is exploring the frontiers of spiritual search in general. My only reservation is that I tend to see children's beliefs as deeply colored by their own developmental immaturity mixed with their tendencies to take in only the most easily understood and caricatured lessons from their parents and teachers. Therefore, I would be more intrigued with how mature adults might answer Landy's questions, which would prompt me to wonder whether and how new approaches to theology might be helpful in the world.

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