Neuropsychology, the Patient’s Experience, and the Political Forces Within Our Field

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This article emphasizes the importance of both scientific and phenomenological approaches to the practice of clinical neuropsychology. Paying attention to patients’ experiences while they receive neuropsychological services is stressed because this aspect is often neglected in the training of clinical neuropsychologists. Finally, the reality of “hostile” forces within the politics of neuropsychology is considered briefly. Neuropsychologists need to consider three major issues that are important to our field and to the National Academy of Neuropsychology. First, neuropsychology is a scientific enterprise that deserves continued efforts at scholarship and clinically relevant research. The second issue concerns how scientific information is applied to patient care and the need for clinical neuropsychologists to understand both personal suffering and empirical data. The third issue is more delicate. It concerns the political forces in our field and my related personal observations. © 1999 National Academy of Neuropsychology. Published by Elsevier Science Ltd

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In 1973, I had the good fortune to hear Donald Hebb deliver a paper entitled “What is Psychology About” as an invited address at the American Psychological Association meeting held in Montreal. It was later published in the *American Psychologist* (Hebb, 1974). In that paper, Hebb stressed several important points, three of which I will bring to your attention.

First, Hebb stated that “Psychology is a biological science” (Hebb, 1974, p. 72) because its goal is to study the mind, and mind (to quote Hebb) “... is the capacity for thought and thought is the integrated activity of the brain.” Thus, the study of the mind requires a scientific approach and one cannot be a psychologist without adequate scientific training. We must keep this point in mind when we consider the training of clinical psychologists and clinical neuropsychologists. Without adequate scientific training, we greatly weaken our profession.

Second, Hebb made the point that scientific psychology does not have a very good track record for teaching people how to live well or wisely. To do this, he suggested that

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we turn our attention to another source of information or knowledge about human beings. That source comes from the study of humanities—art, literature, history, and philosophy.

Hebb also warned about combining the scientific approach with the humanities and calling it science. But he did not suggest that we stop paying attention to both sources of information when dealing with real life problems. Thus, to be a neuropsychologist and apply one’s knowledge base to clinical matters, an individual often must be more than a scientist. Scientific training is a necessary but not sufficient condition for clinical work.

Finally, Hebb made an important observation about hostility and hostile behavior. He noted that hostility was a part of nature that was evident throughout the evolutionary schema. He observed that “higher animals” are often more hostile to one another than lower animals. Hebb (1974) stated that “… irrational emotionality increases with evolution, instead of decreasing” (p. 72). I have encountered the truth of this statement first hand when dealing with political issues within our field. Emotional irrationality can be so intense that we do well to recognize it as a part of our human nature. Although we cannot rid ourselves of irrationality, we have to be able to integrate it into our dealings with one another and to find a method by which the art of politics—that is the art of governing ourselves—encompasses both our rational and irrational behavior.

I am now getting to what is actually neuropsychology. From my perspective, neuropsychology is the scientific study of how the brain produces mind and how disorders of the brain cause a variety of mental and personality disturbances. The study of these disturbances provides great insights into what patients with various neurological disturbances may experience. To apply that knowledge to clinical matters—that is, matters of assessment, rehabilitation, and psychotherapy—requires neuropsychologists to be trained in both the humanities and the scientific method.

At this point, many of you probably think that I am far off the mark and that neuropsychologists need no such training to perform their clinical practice. I submit to you, however, that the application of scientific principles in and of itself is inadequate for patient care. The capacity to understand what individuals are actually experiencing is crucial to our profession and its ability to survive.

Let me give you one example. It is standard practice in the United States to use neuropsychology technicians to assist with neuropsychological assessment. Over the years, I have heard more than one patient complain that the experienced neuropsychologist saw them for 1 hour at best and the rest of their time was spent being tested by a psychometrician. Some of these patients have been tested at very well-known centers and by rather well-known neuropsychologists who use technicians. In each case, and I repeat, in each case, the patients complained that the psychologist did not seem to be sincerely interested in them but interested instead in their test scores and what those scores might mean. Typically, the patients had undergone lengthy examinations by a nondoctorally prepared person who seemed to give them an endless number of tests without no appreciation of what it was like to undergo these tests.

I am not against the use of neuropsychology technicians. I am against the notion that an adequate neuropsychological examination consists of interviewing the patient, doing a few tests, and turning the rest over to a technician. Such a process has a negative impact on many patients and contributes to the negative reactions that neuropsychologists receive from third-party payers who ask us to justify our services. If patients experienced the neuropsychological consultation-examination and rehabilitation as helpful and sensitive to their needs, they and their families would “sing our praises,” and managed care bureaucrats would be much less likely to question the clinical utility of what we do.

I will make the argument that if patients feel comforted after seeing a clinical neuropsychologist, our fight for reimbursement would become much easier. Some of you be-
lieve that this notion is naive. Over the last 26 years, however, I have had more than one patient and family willing to pay me immediately after a consultation. If they felt understood and that their problems had been reasonably helped, they were more than willing to pay for the service. Before I detail the importance of this aspect for patient care, I want to consider some of the historical and recent advances that have strengthened our field and provided a scientific basis for our work.

**HISTORICAL AND RECENT ADVANCES IN NEUROPSYCHOLOGY AND THE NEUROSCIENCES**

Traditionally, the study of neuropsychology began with careful clinical observation of symptoms that were later studied experimentally. For example, building on the observations of Jackson (1898), Goldstein (1942) made an important distinction. He noted that some symptoms are the direct result of brain damage while others represent indirect consequences. Patients have symptoms that reflect either their struggle to adapt to or to avoid their problems. For years, memory impairments have been considered a direct consequence of brain damage (Wilson, 1995). Performance on verbal learning tasks corresponds somewhat with the initial severity of traumatic brain injury (TBI) (Levin & Grossman, 1976). Irritability, that is also a common symptom after brain injury, repeatedly has failed to be related to measures of severity of brain injury. For example, van Zomeren and van Den Burg (1985) found almost no correlation between ratings of irritability and the duration of posttraumatic amnesia. Irritability may well reflect patients’ struggles to adapt. Clinically, we have observed patients’ irritability to decrease when they are placed in environments with which they can cope (Prigatano et al., 1986).

Perhaps the most common long-term consequence of brain injury is social isolation. Kozloff (1987) noted that TBI patients interact socially with fewer individuals over time. Perhaps social isolation represents patients giving up the struggle to adapt to the consequences of their brain injury. This type of analysis of symptoms or behavior is important, particularly when we try to study brain-behavioral relationships systematically. It is important to determining what neuropsychological rehabilitation can and cannot achieve for patients. We need to be reminded of Goldstein’s important observations.

Lashley (1964/1929) made another important historical observation, noting that the size of a brain lesion seemed to influence behavioral recovery greatly. In his 1929 book, *Brain Mechanisms and Intelligence*, he reported that the training history of rats before the onset of their brain injuries influenced the correlations between recovery and size of lesion. This fact is often forgotten. Yet, the work of Grafman et al. (1986) helps bring this traditional observation to light with a modern twist. Studying Viet Nam veterans, Grafman et al. (1986) noted that “Preinjury intelligence/education seems to play an even larger role in postinjury performance than either brain tissue loss volume or a particular structural loss” (p. 301). In their investigation, however, certain variables were more affected by lesion size than others (Figure 1). This study represents the true spirit of the scientific basis of neuropsychology: It builds on and refines older observations.

Many new and exciting advances are catapulting us into the 21st century. Neuroimaging studies provide a dynamic picture of the brain as it relates to various disease states, psychological processes, and mechanisms of recovery. Reiman et al. (1996), for example, have demonstrated specific patterns of hypometabolic activity occur in patients with a genetic predisposition for Alzheimer’s disease before they show neuropsychological symptoms. Frackowiak and colleagues (as discussed in Chollet et al., 1991; Weiller, et al., 1992; Weiller et al., 1993) have studied changes in hypometabolism that relate to recovery af-
After acute infarction of the internal capsule. They reported individual patterns of brain activation, but frontal and parietal areas often showed increased bilateral cerebral blood flow when the recovered brain dysfunctional patients could move their fingers in one hand similar to normal controls. These types of studies are extremely important because they provide a better understanding of behavior that we observe clinically.

**FIGURE 1. Regression Model 2.** Graphic demonstration of the relative predictability of total brain-tissue loss volume (□) and particular brain structure lesions (■) in the presence of the variance predicted by preinjury intelligence (AFQT) percentile score (□) for postinjury test performance. The total area within each circle represents 100% of the variance in performance for each dependent measure. The shaded areas illustrate the relative proportions of variance in performance on each dependent variable that can be predicted by total brain-loss volume, particular structural loss, and preinjury AFQT percentile score. From Grafman, J., Salazar, A., Weingartner, H., Vance, S., & Amin, D. (1986). The relationship of brain-tissue loss volume and lesion location to cognitive deficit. *Journal of Neuroscience* 6, 301–307. With permission from the Journal of Neuroscience.
Recently, it has become clear that unilateral lesions often produce bilateral cerebral effects, particularly in the acute phases after a brain insult. A brief neuropsychological examination may be very helpful in predicting a patient’s level of recovery and capacity to achieve rehabilitation goals. For example, Prigatano and Wong (1997) showed that speed of finger tapping was slow and grip strength was decreased in patients after acute cerebrovascular accidents. Interestingly, however, recovery of the speed of finger tapping, not grip strength, was the variable that correlated to rehabilitation outcome. Perhaps even more surprisingly, speed of finger tapping in the so-called “unaffected hand” (that is, the hand ipsilateral to the lesion) correlated the strongest with rehabilitation outcome.

Despite the recent policy statement of the American Academy of Neurology that neuropsychological tests are least helpful after an acute cerebrovascular accident, this study demonstrates the opposite. Neuropsychologists need to challenge biases of this type that limit our field of practice. This particular study highlights that neuropsychological test findings with practical implications for a patient’s rehabilitation outcome can be obtained (Figure 2).

The capacity of neuropsychologists to follow brain dysfunctional patients for several years after injury has also led to important insights. Corkin et al. (1989) demonstrated,
for example, that some individuals who suffered penetrating head wounds during World War II showed a precipitous decline in function 40 years after their brain injury. Their important study suggests that observing patients for many years after injury belies the concept of a static brain lesion (Geschwind, 1985). More than 40% of their brain dysfunctional patients showed a precipitous decline in function that could not be accounted for by normal aging.

Perhaps these patients had a genetic predisposition for deterioration that is only now being recognized. Roses and Saunders (1997) reported that patients who are positive for the apo E genotype, particularly the E3 and E4 allele, have a higher incidence of death and poorer rehabilitation outcomes, as measured by the Bartel Index Score, after ischemic injuries (Table 1).

Finally, efforts at rehabilitating brain dysfunctional patients, a relatively new venture for neuropsychologists, have provided further insights. Many postacute TBI patients seem to lack awareness about the extent of their neuropsychological deficits (Prigatano et al., 1984). Clinically, this characteristic has been identified as a major barrier to good rehabilitation outcomes. Recently, Sherer et al. (1998) independently documented that measures of impaired awareness were related to employment status after TBI more than a five-factor model that included initial severity of injury, chronicity of injury, and the patient’s pre-employment status, use of alcohol, and level of cognitive functioning (Table 2).

These observations are important to our field. They clarify the complexity of neuropsychological problems as we expand our avenue of practice. The problem of impaired self-awareness, as many of you know, has been especially interesting to me and has

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**TABLE 1**
Mortality and Recovery as a Function of Apo E Genotype in Intracerebral Hemorrhage

<table>
<thead>
<tr>
<th>Genotype</th>
<th>Number</th>
<th>Mortality</th>
<th>Barthel</th>
</tr>
</thead>
<tbody>
<tr>
<td>ε2/ε3, ε3/ε3</td>
<td>26</td>
<td>19%</td>
<td>88</td>
</tr>
<tr>
<td>ε3/ε4</td>
<td>16</td>
<td>68%</td>
<td>60</td>
</tr>
</tbody>
</table>


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**TABLE 2**
Comparison of Selected Logistic Regression Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Chi-Square</th>
<th>Degrees of Freedom</th>
<th>R²</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Factor Model (Severity, Chronicity, Pre-EmpStat, Pre-Alc, LCF)</td>
<td>6.37</td>
<td>5</td>
<td>0.13</td>
<td>0.28</td>
</tr>
<tr>
<td>6 Factor Model (5 Factor Model + C-Rating)</td>
<td>15.34</td>
<td>6</td>
<td>0.29</td>
<td>0.02</td>
</tr>
<tr>
<td>6 Factor Model (5 Factor Model + P-FDIF)</td>
<td>17.71</td>
<td>6</td>
<td>0.33</td>
<td>≤0.001</td>
</tr>
<tr>
<td>7 Factor Model (5 Factor Model + C-Rating and P-FDIF)</td>
<td>23.28</td>
<td>7</td>
<td>0.41</td>
<td>≤0.001</td>
</tr>
<tr>
<td>2 Factor Model (C-Rating and P-FDIF)</td>
<td>16.35</td>
<td>2</td>
<td>0.31</td>
<td>≤0.001</td>
</tr>
</tbody>
</table>

forced me to recognize that knowledge from both neurology and psychology is necessary to grapple with this difficult problem.

If we are to help patients regain a productive lifestyle and to deal with the problem of lost normality, their impaired self-awareness becomes a crucial issue. Prigatano et al. (1994) replicated the earlier observation (1984) that approximately 50% of TBI patients could be helped to regain a productive lifestyle by participating in a milieu-oriented, holistic approach to neuropsychological rehabilitation. For the first time, these studies showed that the quality of the working relationship—the therapeutic alliance between the patient and the therapist—affect outcomes. They also demonstrated that the relationship between the patient’s family and the therapist affected outcomes.

Such data make it clear that to be effective in their work neuropsychologists must understand their patients’ experiences. Consequently, I have argued that both scientific and phenomenological approaches are needed to work with patients in the clinical arena. Neuropsychologists must take seriously the need to understand the issues patients struggle with and their personal experiences after brain injury.

**THE PATIENT'S EXPERIENCE**

We are trained to recognize that brain damage produces a variety of neuropsychological disturbances, depending on factors such as the location and laterality of the brain injury, the type of neuropathology, and the patient’s age (e.g., Heilman & Valenstein, 1993). We are seldom trained to try to sense what patients experience after brain damage. What do patients experience when interviewed? What do they experience when given neuropsychological tests? What do they experience while being treated on a rehabilitation unit or in an outpatient rehabilitation department? What do they experience when attempting to function at home or to deal with family members? If we do not ask these and other questions, we are much less effective as clinical neuropsychologists. Let me give a few clinical examples that highlight this point.

In the neuropsychological assessment of patients, therapists often encounter some version of the catastrophic reaction (Goldstein, 1942). As patients undergo various tests, for example, the Block Design Subtest of the WAIS-R, they may become frustrated with their unexpected failure to perform. During this time, they can give the examiner subtle clues that they are bored and tired with the testing experience. They also might become rude and insist that the test be stopped. If the clinical neuropsychologist senses what the patient is experiencing, he or she can modify the examination to maintain the patient’s involvement without becoming overwhelmed. In other words, sometimes the neuropsychologist should stop a given task in the interest of developing a therapeutic alliance with the patient. The goal is *not* to obtain a test score. The goal is to understand how brain injury has affected higher cerebral functioning and how that information can be used to help the patient. This is the art and clinical practice of neuropsychology.

Second, if the therapist does not pay attention to what the patient is experiencing, the therapist cannot work with patients effectively in rehabilitation. Elsewhere I have described a young woman who suffered a penetrating brain injury from a gunshot wound to the head (Prigatano, 1995). She was a congenial, “ideal” patient for most of her inpatient neurorehabilitation. She often sat looking down, saying little to the therapist who worked with her. In the context of a day-treatment program, she unexpectedly refused to participate in one cognitive rehabilitation exercise aimed at improving her communication skills. That exercise required her to be videotaped.

This once previously congenial and cooperative young woman absolutely refused to
be videotaped. If she had been viewed simply as uncooperative or belligerent, her rehabilitation would not have progressed. By trying to understand why she did not want to be videotaped, the therapist gained a much richer view of how she experienced life after her brain injury. In the context of a psychotherapeutic relationship, she drew a picture (Figure 3).

Her drawing reveals that brain injury not only affects thinking, it also affects emotion and motivation substantially. The patient was overwhelmed by her brain injury and felt belittled by those who wished to videotape her in a manner that she perceived as insensitive. By the therapist accepting her feelings and not forcing her to do something that she was emotionally unprepared to do, she not only completed her course of rehabilitation but eventually obtained training that allowed her to work in a very productive manner.

Where do clinical neuropsychologists learn these skills? They are not learned simply by studying brain-behavior relations (Prigatano, 1999). They are learned by taking the need to enter the patient’s phenomenological field seriously and by receiving proper supervision while accomplishing this task.

Such work also helps us by revealing insights important for research. I first became impressed with patients’ poor self-awareness after brain injury by listening carefully to how they describe themselves. The issue cannot be discussed here, but I want to emphasize that without paying attention to how patients actually describe themselves, we could have continued to interpret the problem of impaired self-awareness as a denial phenomenon, that it is not (see Prigatano & Weinstein, 1996). Understanding these disturbances can also give us better insights into why some patients develop psychosis several years after injury (Prigatano, 1999).

FIGURE 3. Drawing by a female patient who became unwilling to cooperate with videotaping during the course of neuropsychologically oriented rehabilitation. With permission from Barrow Neurological Institute.
Finally, paying attention to patients’ experiences is also good business. If neuropsychologists pay attention to the patients’ experience, patients will wish to see them again. They and their family will sense that the clinician cares about them and they will be more willing to pay for services, as I noted above. Patients and family members often inform their physicians that they have been helped. These reports encourage physicians to assist in our fight for reimbursement, but they also leave a deeper impression. When physicians hear that their brain dysfunctional patients and family have been substantially helped by rehabilitation, they refer their own family members when they experience similar problems.

Our best advocates are physicians who request our work. If they observe that our services are scientifically sound and that they enhance the quality of patients’ lives, our position in the health care industry becomes more secure. These two ingredients, the scientific study of brain-behavior relationships and the clinical art of practicing neuropsychology, create the real joy of working in this profession. Our profession, however, has been jeopardized by forces within our field as well as from those outside our field. Let us take a moment to consider these disruptive political forces.

THE POLITICAL FORCES IN OUR FIELD

Politics has been defined as “the art or science of government” (American heritage dictionary, 1982, p. 960). It is the process by which we persuade people to act in a certain manner for a common good. Politicians, however, are also guided by both rational and irrational forces as Hebb reminded us. If you want an accounting of the rational forces that shaped our field, consult the written word. Read Bruce’s (1985) observations regarding the origin of the term “neuropsychology,” Parsons’ (1970) chapter on the development of clinical neuropsychology, Reitan’s (1994) article on Halstead’s contribution to neuropsychology, and Costa’s (1998) recent article, Professionalism in Neuropsychology: The Early Years.

If you would like to have a sense of the irrational forces that have guided the field, simply pay attention to the tensions in our field today. What groups get along with each other? What are the recurring battles fought in the name of professionalism? Which neuropsychologists are considered to be the “good guys” and which neuropsychologists tend to be perceived as the “bad guys?” How did organizations develop and what professional and personal needs do they meet? It is no surprise to anyone who has been in the field for the past 25 to 30 years that the National Academy of Neuropsychology was founded, in part, because the needs of some neuropsychologists were not met by other organizations. Some individuals felt that the clinical aspects of neuropsychology were not adequately represented at existing meetings and that certain personalities engendered hostility toward their own theoretical or clinical perspectives. Considering the phenomenon of evolution, this tendency should not surprise us. Someone who enters your group with strange ideas or requests is often considered a foe unless proven otherwise. It is not uncommon for the “professional pack” to drive individual(s) away from their group. With time, those individuals may form their own group to defend their security and the ideas with which they identify.

Contemporary tensions within the field of professional neuropsychology are remnants of the earlier hostile reactions of our professional forefathers and foremothers. It is important for neuropsychologists to evaluate the political forces that we are now experiencing and whether these forces are helping us to resolve problems or producing new ones.

As a student of Freud and Jung, I have little doubt that psychologists have no special
talent in resolving personal or political issues among themselves. Nevertheless, we are in the great city of Washington, DC, a city with a tremendous history of both positive and negative political events. You may know that Thomas Jefferson, the third President of the United States, was the first president to live in the White House. Besides being noted for his major role in writing the Declaration of Independence, many historians believe that Jefferson’s major contributions were his notions of free speech and freedom of the press.

Historians have noted that Jefferson was often attacked by the press for his unpopular opinions. One of those unpopular opinions was shared by George Washington, an opinion that the early Federalists and Republicans often disputed vehemently. The Federalists, who tended to be those in power—bankers, land owners, individuals who controlled large amounts of money—felt that the people, as a whole, could not govern themselves. They felt that normal human beings lacked the intellect or emotional stamina to make important decisions that would guide the course of human history. In contrast, the Republicans, who later formed the Democratic party, believed that important political issues should be presented to the masses. They argued that the masses often have a wisdom that elected leaders fail to display.

I have been reminded of that historical fact several times in the past year as I participated in various meetings and listened to well-recognized psychologists express their opinions about how neuropsychology and the various neuropsychological organizations should interact with one another. The belief that only a few select individuals understand the needs of the field and that those individuals hold the truth, the light, and the way, was not uncommon. This is a dangerous philosophy, and we are in a city that reminds of how dangerous this philosophy can, in fact, be.

The recent Houston Conference is an example of the perception that a self-selected group of individuals were defining a course of education and training about which large numbers of neuropsychologists had no input. The document itself stands as an excellent first step for defining the training of neuropsychologists. Yet, it engendered much of the underlying bitterness that has existed in our field because of the tensions that began more than 30 years ago between psychologists who felt that they had good insights about what the field needed and those that the first group did not consider a part of their group. The issue of board certification is another example of this recurring problem. Will the field have a single board or multiple boards? Why have the leaders of these two positions been unable to resolve their differences to the satisfaction of the constituency of both groups? Why have some of the facts concerning the origin of the bottlenecks in both groups only recently come to light?

As neuropsychologists, we must recognize that we will always have disagreements and that our behavioral reactions to one another will be driven by both rational and irrational forces. If we do not have the courage, however, to stand back and scrutinize our own behavior as well as that of those with whom we disagree, our profession will be damaged more than any external force could effect.

Neuropsychology is a strong field that brings some of the most useful scientific data to bear on patient care. If we stay close to our scientific training and expand our database while still paying attention to what patients experience, the field will no doubt grow and prosper. We cannot grow if we continue to bicker and fight with one another over issues that represent old tensions and old conflicts. We have to step forward and entrust the members of the field to make important decision that leaders of specific groups cannot otherwise do.

My own personal opinion is that we should follow Jefferson’s lead. When an issue is really divisive, we should put the issue in front of the professional masses. We should ask
them how they feel about key issues, and their opinion should be a mandate to leaders in our field. I attempted to do this when I received both positive and negative reactions to the Houston Conference. If we get into the habit of dealing with issues in this manner, I believe our field will progress. We can then overcome some of the petty fighting that emanates from issues that were not resolved by our professional forefathers.

We can focus on issues that relate to how to train clinical neuropsychologists to be both scientists and clinicians. We can focus on how to treat patients so that they will convey the importance of neuropsychological services to their elected officials. We can provide a database for third-party payers and Medicare to demonstrate why our services should be reimbursable and what a fair reimbursement for different neuropsychological services should be.

Finally, we can better defend our right to practice the art and science of clinical neuropsychology in a manner that does not have to be challenged constantly by the legal maneuvers of attorneys who want to win lawsuits. We can show that videotaping and audiotaping neuropsychological examinations can, at times, have a deleterious effect on the clinician’s ability to perform standard clinical examinations.

If we can be sensitive to these issues and approach the political forces in our field in a novel way, we have the chance not only to expand the role of clinical neuropsychology in the United States but to advance it throughout the world. It is my hope that the National Academy of Neuropsychology will become a premier voice for such international leadership.

Thank you very much for your attention. Again, it has been my pleasure and an honor to serve as the President of the Academy this year.

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