

The International Handbook of Psychology

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Applied Social Psychology

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26.1 INTRODUCTION: TWO OF A KIND

Two Pioneers

There are two pioneering figures in the domain of applied psychology: Hugo Munsterberg and Edouard Claparède. Hugo Munsterberg (1863–1916) is considered the senior pioneer because he began his experimental research in applied psychology in 1885 in the laboratory at the University of Freiburg in Germany. He was later invited by William James to conduct applied psychology research at Harvard University. Munsterberg became a consultant in a variety of areas including fatigue and accident analysis, business and consumer behavior, forensic issues and dilemmas, aviation psychology as well as psychological therapy.

The second pioneering figure was Edouard Claparède (1873–1940) who created the journal *Archives de Psychologie* in 1901 and in 1908 became a professor of psychology at the University of Geneva. His main disciple and successor was Jean Piaget. Claparède's field of

study and expertise was educational and school psychology, stressing a functional perspective to understand learning and intelligent behavior. He became a well-known educational consultant in many countries under the aegis of several international organizations. Claparède suggested how psychological knowledge could be used to intervene actively in the treatment of individuals and groups with real life troubles and to solve problems in business, education, and government. In 1920 Claparède founded the International Association of Psychotechnics (that is, psychological technologies) which afterwards became the International Association of Applied Psychology (<http://www.iaapsy.org>).¹

Two Frameworks

Social psychology got its name in 1908 from the title of two books published separately in London (authored by William McDougall, a psychologist) and in New York (authored by E. A. Ross, a sociologist). This name for an area of applied psychology gained rapid acceptance:

for instance, in 1921 the *Journal of Abnormal Psychology* became the *Journal of Abnormal and Social Psychology*. It emerged as a new label subsuming other customary terms.

Initially, social psychologists studied social instincts as the way to gain a comprehensive understanding of the collective efforts of individuals as well as groups. In the 1920s, for instance, the concept of a *group mind* became the focus of analysis, implying the existence of a group consciousness that exceeded the individual consciousness of group members. A methodological and conceptual distance developed between those social psychologists studying group behavior and those psychologists studying individual and group differences. Both disciplines started to drift apart. Social psychologists claimed that the behavior of a group cannot be understood just by knowing the set of complementary or incompatible characteristics of its individual members. Differential psychologists opposed the concept of *syntality* which is the group equivalent to the personality of the individual. By learning the characteristics of the group, it will improve the ability to predict what that group will do in some very specific circumstances under scrutiny. Social psychologists learned to analyze the collective behavior of a stable group in terms of process variables and social structure. In contrast, differential psychologists analyzed ability and personality traits of its members that supported the attractiveness and cohesiveness of the group, evident through performance and interactions. Social psychologists highlighted, for instance, that a given group itself could have its own degree of concern for something (group mind). Differential psychologists highlighted, by contrast, that only individuals in the group can indicate such concern and as a whole, the group will demonstrate its concern in a way that may be forecast (syntality). In other words, is a group considered to lead its members into being 'corrupted and deceitful' a leading group or do corrupted and deceitful leaders belong to such a particular leading group?

This distinction is just the second example of two distinct ways of developing applied social psychology. Conventionally, 'social psychologists' viewed themselves as psycho-social agents involved in intervention research programs. By contrast, for decades, 'differential psychologists' have been known as 'applied psychologists'. If their methods are combined, then the title 'Applied Social Psychology' can be used to describe intervention research and practice that deals directly with the facts themselves.

Two Pacesetters

Kurt Lewin (1890–1947) is considered one of the pacesetters in the domain of applied social psychology because he emphasized the usefulness of an experimental and experiential perspective in the analysis of social behavior through action research (Lewin, 1951). Lewin advocated that the method to be used by an applied social psychologist is not just to be an observer but to join in the group and become just another participant. He believed that the actual process of actions generated by a specific group is itself the subject of psychological research. As a consequence, the set of activities undertaken by groups appointed or organized to solve specific problems or to attain distinct goals become the focus of the applied social psychologist's interventions. Lewin stated that the best way for the applied social psychologist to intervene was to both participate in and observe the group's reflection of their experience as well as the way they memorize their actions and its results. The result of both kinds of intervention is that applied social psychologists become experts in action-group processes and in action-learning groups and so can contribute what they have learned to increase the quality of life in an affluent society.

A second international pacesetter in applied social psychology has been Edwin Fleishman (1927–) known for his application of the experimental and multivariate perspective in the analysis of the individual and the group performance. Fleishman has advocated that applied social psychologists employ standard scientific and technological methods, using tasks and measures that make it possible to study individuals and situations reliably in real life settings. Applied social psychologists are external observers or at most, very indirect participants in the work-group being studied. Factors affecting individual or group performance are the main subject of analysis; once identified and validated, such factors are viewed as psychological dimensions or constructs leading to improved generalizations and predictions in program interventions and in decision-making processes where new but related tasks and situations are taken into account. The focus of analysis is human performance in a wide variety of settings (Fleishman & Quaintance, 1984). The objective is to develop taxonomies that, when merged with appropriate sets of quantitative data and a strategic outlook, might be useful for forecasting purposes. Under this framework, the world of human actions and social behavior is not chaotic, improbable, and inaccessible. The result of this methodological approach is that applied

social psychologists can become experts who successfully predict and generalize about human performance, the touchstone that can increase the quality of life in affluent societies.

Lewin and Fleishman present two quite different and seemingly incompatible research and intervention traditions in social applied psychology, but both perspectives have been present throughout the twentieth century when psychologists have dealt with a large variety of issues. For instance:

1. Changes in food habits may be enhanced by fostering focus groups discussing the advantages of the new product compared with other products. In this context, the consumer psychologist plays a visible role during the discussions. But also changes in food habits may be enhanced by supplying the new product and other competing products at no cost and then analyzing consumption patterns during a given period through a follow up of purchases and returns. In this context, the consumer psychologist may remain invisible for the sample of people testing the new product.

2. Stress symptoms may be addressed by sport psychologists fostering group discussions among teammates and by analyzing rational and irrational fears before and during an important match against a competing team. Successful learning is the consequence of a reorganization of the perception of stressors and of the generation of a new insight. The psychologist plays the role of facilitator in group discussions. An optional strategy used by other sport psychologists has been to assess individual stress symptoms in each member of the team and then train the team member in coping strategies taking into consideration differentially the predisposition to succeed or fail by setting aside rational and irrational fears before and during an important match. Successful learning is the consequence of adequate training instructions to facilitate coping strategies; the stressors are considered mere stimuli. The psychologist plays the role of assessor.

3. Organizational and health psychologists may study the degree of satisfaction among patients in a hospital by getting patients together in small group sessions, and inviting them to comment on direct or indirect examples of satisfactory or regrettable health services received during the treatment period. An optional approach is to interview the patients in the room by asking them to enunciate examples of agreeable manners and sensitivity they have felt during their stay in the hospital. Another possibility is to administer an exit survey to every patient and analyze the answers by specialties, by buildings, by shifts, by seasons. The outcome will differ according to the strategy launched. When

patients are granted the possibility of commenting using specific examples, strong distinctions and subtle nuances flow in the group dynamics; somehow the organizational and health psychologist chairing the meeting becomes another participant and may be viewed as such by the other members in the group. By contrast, patients usually would not view the interviewing psychologist as a participant in the examples set down as a reaction to questions such as 'were you pleasantly surprised by your doctor when he or she did . . .?' But in fact that very question only looks for an answer about positive feelings and may encourage one particular answer over another. Although administering a survey might create an impression of neutrality by the absence of the psychologist, each time generic questions such as 'are you satisfied with . . .?' are posed, two out of three people tend to respond showing a general sentiment of contentment. Answering a survey with a positive mood is a friendly way to project a good image before the pollster.

These are three instances showing that the same real life issue may be examined by social applied psychologists following in the footsteps of two quite distant schools in the academic milieu but quite close frameworks in psychological practice.

Bringing out Psychological Products

A critical issue is the understanding of how psychological products are generated to fill a gap in applied and social settings. Figure 26.1 provides the hidden cues that are rarely highlighted (Low, 1992): an idea in a form with a demand.

The first ingredient is *ideas*. While teaching or doing research, psychologists get used to pondering notions, conceptions, models, theoretical frameworks, ways of describing or explaining human cognition, emotion and action. The outcome of such mental activity is a set of ideas

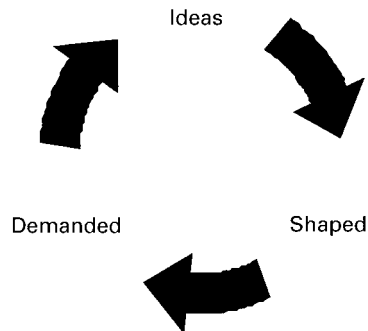


Figure 26.1 *Applied social psychology: generating psychological products*

revealing the inner relationships between events, actions, or phenomena. Society subsidizes the learning process of university graduates expecting they will become advanced experts who are full of ideas and know how to elaborate and refine the flow of ideas when they stimulate creative thinking. In one way or another, the business of university students and graduates is the world of ideas. However, this is not enough; it is essential to know how to shape and structure these ideas.

The second ingredient is *shaping*. Ideas alone survive in the books and journals, dreaming until they wake up on a bookshelf. Psychological ideas must be transformed, shaped, organized, and structured to become an actual psychological product. Through the form, an idea becomes something and gets an identity. Intelligence or projective tests, graphic rating scales, interview schemes, individual or group exercises, protocols, the syllabus and goals of a seminar, the report to the client, the scientific paper, all are tangible and psychological products. Each has a distinct form, a structure, a layout, a procedure, a cost. The output is an applied and social technology. This is the origin of expressions such as 'psychotechnics' and 'psychotechnology'. The artificer works out together several ideas in a long chain of decisions, some related to psychology and some to the commercial side of the final product (Prieto & Martinez-Arias, 1997). A wrong decision in the process of shaping up the set of interrelated ideas underlying any psychological product may ruin its availability or acceptance. An idea without a given form is only a ghost. Quite often the process of developing and shaping ideas remains under the control of professors, not of students, on the campus. The psychotechnological approach is an unresolved matter that young graduates learn to handle through a period of supervised practice or through trial and error. Currently the syllabus, in the campus, deals with psychology, not with psychotechnology!

The third ingredient is the existence of an actual *demand*. Successful applications of psychological knowledge are backed by the societal demand; such a good or service must improve the quality of life of individuals, groups, or organizations. Applied social psychology fails when there is the social perception that the product supplied might be nice, interesting, innovative but irrelevant for the well-being of the targeted audience. If the goods or service launched obtains the support of grateful or responsive customers it rises to the occasion and the program is welcome. The immediate consequence is jobs, in the public or the private sector. It is the touch of the master.

Figure 26.1 illustrates, in a loop, how an applied psychological product exists if one or several ideas are interrelated and shaped together, generating a unique form that is backed gradually by the demand. It is sought and needed. It has a name and is identified by a logo or by a trademark; it may be bought, exchanged, donated, or stolen. If there is no demand, the product ends packed in the chest of souvenirs. If there is no demand and no form, the idea is a succession of images, of thoughts, of cognitive emotions, not yet a professional plan, a program, a course of action, a psychological tool. The three threads weave the fabric of psychological products.

26.2 APPLIED SOCIAL PSYCHOLOGY: THE JANUS CLOTH

To understand the section it is helpful to remember the typical ambiguous figures produced and disseminated by Gestalt psychology: some people see the old lady, for instance, and others see the young woman. The concept underlines the perceptual dichotomy of the original figure; each vision is meaningful but only when viewed separately. However, the concept also stresses the perceptual polarity in the image: each vision is ephemerally true but requires the evanescent presence of the complementary image. Both have an actual but chimerical appearance. Understanding becomes, just, a matter of discernment and perspicacity; perception is in the eye of the beholder. The four-dimensional reality cannot be captured gratuitously!

Goods and services created by the applied social psychologist nourish the coexistence of Janus-faced profiles. This is not a matter of dichotomy (two mutually exclusive pairs), but of polarity (a Janus cloth, that is, a worsted fabric each side of which has a different color). Applied social psychology also pursues the logic of paradoxes.

Psychological Science as well as Psychological Technology

Applied social psychology utilizes the null hypothesis to verify the adequacy of propositions and models in a given subject. The focus is the aseptic analysis of contrasted facts through valid measures or reliable databases. Researchers, consultants, or practitioners, when explaining or predicting what happens at the individual, group, or organizational level, claim a value-free profile. But the same researchers, consultants, or practitioners currently handle advanced knowledge expertly to deal with and

solve individual, group, or societal problems by changing situation A (not desirable) into situation B (highly desirable). Under such circumstances, the psychological product is intended to contribute to an increase in the quality of life of the society or the customer. The focus is the analysis of facts highlighted by values, which quite often are under the influence of political, deontological, and benevolent as well as self-interested motives. As a consequence applied social psychology does adopt a value orientation technological profile in the process of explaining or predicting what happens at the individual, group, or organizational level.

A typical example is the study of how alcohol influences driving behavior. Traffic psychologists may gradually increase drivers' intake of alcohol and analyze their behavioral patterns in a car-simulator. The covariance between errors and alcohol consumption is studied and critical levels of alcohol are determined empirically. This is within the framework of psychology as a scientific field of inquiry. In a similar vein, traffic psychologists may study the outcomes of alcohol tests administered at the roadside by police. Within the framework of psychology as a technological field of inquiry, they use statistical methods to find the critical level of alcohol consumption that impairs tests of balance, and they may submit suggestions to politicians or authorities in their role as assistants to policy makers. Science fixes the standard from the analysis of facts, mainly in the laboratory. Technology fixes the standard by combining facts, judgments, and values within the framework of a strategy of road safety. The scientific perspective studies and may explain the subject, whereas the technological perspective fixes and may solve the problem.

Human Behavior and Human Performance

For decades, many researchers, consultants, and practitioners emphasized that human behavior was the basic unit of analysis. The focus of empirical study or inquiry has been observable activities as well as responses to internal or external stimuli. The result is a profile of applied social psychology as the science of human behavior. At the same time, human performance has also been the basic unit of analysis for many other researchers, consultants, and practitioners. They use it as the dependent variable when they have had to persuade present or potential customers about the 'ad hoc' suitability of their expertise. Human performance becomes the basic unit of analysis for applied social psychologists paying attention to those activities leading

to a result (Campbell, McCloy, Oppler, & Sager, 1993). As soon as there is a task or a challenge, a person's performance emerges and can be studied. Human performance may be the outcome of a thoughtful strategy, of a sincere engagement, of ad-libbing, but also of a theatrical play. Children and adults concern themselves with the minutiae of playing as well as of reaching goals daily. Human performance can be seen when applied social psychologists design and evaluate intervention programs to influence the degree of change in individuals or groups. Thus, an understanding of applied social psychology would not be complete without a profile of applied social psychology as providing a technology of human performance. Human performance is always observable and measurable, because it points to specific actions contributing or failing to attain the expected result. By contrast, human behavior is not always observable but inferred, as is the case sometimes in cognitive and emotional behavior.

A typical example occurs when health psychologists analyze the nexus between stress and smoking patterns among health professionals and they find the occurrence of stable relationships. But, also they may be requested to predict the occurrence of symptoms of stress that negatively affect the otherwise stable and friendly interaction between medical and nursing staff in a hospital if smoking in public becomes formally forbidden within the premises. The first example deals with behavioral and the second with performance issues in the workplace.

Psychological Knowledge as well as Psychological Achievements

The main purpose pursued in rigorous research and practice is often said to be the expansion of the body of scientific knowledge in applied social psychology. Journals and conventions sponsored by national and international associations push towards this advancement. Excellence is strengthened after the existence and the convergence of contrasted knowledge in the discipline. In fact, this is the realm of hypotheses and predictions emanating from theories or models and validated after thorough examination and investigation into the matter. However, unlike in basic science, the excellence of a discipline is recognized by society only if there is a series of continuous accomplishments and successes led by well-known professionals involved in problem-solving programs (Dorken, 1986; Prieto, 1992). Their achievements are compared with those of other competing professionals in similar domains of expertise. Success is not measured as a matter of public

opinion or mass media but rather, it is a matter of presence or absence in problem-solving and decision-making committees. It is a matter of inclusion or exclusion in strategic actions and plans launched by policy makers in the region. It is a matter of high visibility or clandestine working when sound knowledge is taken into consideration when dealing with societal issues and dilemmas. Achievements exist if psychologists achieve the intended goals they have been pursuing through applied and social actions or when they complete a creditable action. Achievements tend to be attributed directly to the expert or the leading researcher involved. Achievements are understood as a contribution to progress or fulfillment, as masterpieces.

A good example is how testing procedures succeed in being selected for vocational guidance or personnel selection. Sometimes instructors, supervisors, superintendents, personnel managers, military officers, and others, years if not decades before scientific knowledge about assessment, evaluation, and psychometrics has been standardized, sponsor an approach. A comprehensive body of knowledge has been developed as a consequence of the systematic analysis of accomplishments and failures. A comparison of textbooks on psychometrics published in the 1920s and in the 1990s shows real progress in the development of new sets of formulas and indices but the mathematical background still remains the same. Computers add sophistication in testing and evaluation methodologies, for instance, but the general framework remains the same. In fact, the large majority of findings published in contemporary psychometric journals are rarely used in applied social psychology. These findings create good basic science but do not significantly improve the decision-making processes, accomplishments or achievements. The authors do not reach the audience of policy makers, and this is a critical issue concerning the survival of any scientific or technological discipline. An achievement is the support that consultant psychologists obtain when they renew a contract, when a psychological approach becomes a local, regional, or national standard in the field, when a psychological expression for identifying workplace events ('sexual harassment', 'creativity', IQ or EQ for instance) is welcomed and accepted in many languages, discourses, daily talk, or legislation. A way of verifying the achievements of applied social psychologists is to search and find out how psychological terminologies and frameworks appear in the minutes and norms enacted within organizations, within society, by the parliament, the ministry, the chief executive officer. When done, this follow-up often raises the researcher's spirit. However, it is convenient

to stress that achievements are both of a professional and a political nature.

These three dyads, taken together, value applied social psychology both as (a) a behavioral science whose main focus is the production of sound knowledge in the context of scientific discoveries and advancements; and (b) a behavioral technology focused on the attainment of persuasive achievements in the context of improving the quality of life in the society.

It is not mere duality or the coexistence of two ways of being an applied social psychologist. Rather, it is two equal and valid ways of understanding the role and goals of applied social psychology within the scientific community and within an affluent society. One way cannot triumph over the other nor merge with the other. In each field, applied social psychologists serve those goals and needs fitting their techniques and frameworks and avoid extending their approaches beyond their established expertise (Dorken, 1986). In this way they design and promote specific psychological programs to deal with real life problems, with issues in the laboratory or with interventions in open field studies and actions. A smile is the fire escape for all ambiguities.

26.3 APPLIED SOCIAL PSYCHOLOGY: MAKING A LONG STORY SHORT

The list of subspecialties that may be placed within the umbrella of applied social psychology is quite long and continues to grow. The terminology used has changed at different phases of the history of each subspecialty and, furthermore, from English to non-English language (see, for instance, the search engine located at: <http://www.cop.es/database/> or the homepage of the International Union of Psychological Science, at: <http://www.iupsys.org>). Some areas are described in other chapters of this Handbook. There are some areas that warrant attention, especially since they have had a sufficient number of practitioners to become a division within the International Association of Applied Psychology (IAAP). Audience and membership is a non-intrusive measure of consolidation and soundness. The IAAP is the oldest worldwide association of scholars and practitioners, identifying themselves as applied social psychologists, from 94 countries. Further details may be found at: <http://www.iaapsy.org/>.

These are the 14 divisions of the IAAP and chapters where their fields are mentioned in this Handbook:

1. Organizational psychology (Chapter 25).
2. Psychological assessment and evaluation (Chapter 20).
3. Psychology and national development (briefly in this chapter).
4. Environmental psychology (extensively in this chapter).
5. Educational, instructional, and school psychology (Chapter 24).
6. Clinical and community psychology (clinical psychology, Chapters 21 and 22; community psychology briefly in this chapter).
7. Applied gerontology (Chapter 15).
8. Health psychology (Chapter 23).
9. Economic psychology (briefly in this chapter).
10. Psychology and law (extensively in this chapter).
11. Political psychology (briefly in this chapter).
12. Sport psychology (briefly in this chapter).
13. Traffic and transportation psychology (briefly in this chapter).
14. Applied cognitive psychology (briefly in this chapter).

Describing precise details of each subspecialty area would require a handbook, already in progress, for each field. Several possibilities were considered. Finally, the first author of this chapter decided (a) to introduce in this section some basic tenets of those areas not approached in other chapters of this Handbook and (b) to devote the remaining two sections to a more detailed study of forensic and law psychology (written by Michel Sabourin and Lenore E. A. Walker) and to environmental psychology (written by Juan I. Aragónés and María Américo).

Each sub-discipline of expertise in applied social psychology has been approached in this section paying some attention to historic circumstances and focusing the attention on the standard contributions expected from scholars and practitioners acting as experts in the specific field. It is a concisely presented sketch of the expertise that seems to be already consolidated through the professional profile (COP, 1998; electronic version, <http://www.cop.es/perfiles/>).

Psychology and National Development

There appears to be a direct overlap between the strengthening of affluent societies and the strengthening of applied social psychology as a scientific and technological field of research and expertise. In fact, the large majority of professional projects and programs in applied social psychology may be categorized within the service sector of the economy. A majority of long-term research and action projects that have attained

high visibility and an aura of respectability were subsidized by public funding in developed countries.

It is not only a question of a lack of resources and job opportunities in developing countries. During the twentieth century, dictatorships and theocratic governments imprisoned or forced into exile a large number of scholars and practitioners in psychology, notably in Spain, several Latin American, some Asian and Arab countries. There were also many cases of graduates in psychology for whom it was more convenient to stay abroad than come back home because they were considered 'persona non grata' by their field of expertise. Perhaps this is because many of the psychological findings appear to be laden with the politics of democratically, culturally, or economically advanced settings.

It is not clear that applied social psychology only reflects a way of life in advanced and open societies. The 24 International Congresses of Applied Psychology, held during the twentieth century, have provided an important forum to exchange working hypotheses, predictions, and analyses among scholars and practitioners testing the same or quite similar models in countries with different kinds of economic or governmental structures (Adair & Kagitcibasi, 1995). The result has created an area of expertise in studying sensitive issues in developing countries such as (a) factors facilitating progress; (b) individual and community development programs; (c) the psychosocial role of institutions; (d) psychosocial challenges in periods of transitions; (e) transformation processes in post-communist countries; (f) ethnocentrism and psychology; (g) the role of women in democratization processes; (h) the transfer of research information from developed to developing countries; (i) psychotherapy and ethnic minorities; (j) diversity values, mentalities, and ideologies; (k) psychological crises in refugees and war victims; (l) human rights and democracy; and (m) acculturation and adaptation.

Cross-cultural psychology (Chapter 18 in this Handbook) and psychology and national development share many methodological techniques around the observation, study or comparison of specific psychological issues (Triandis, 1993). However there are important differences in the focus. Cross-cultural psychology is focused on the analysis of positive facts, on the comparison of patterns between persons or groups of different cultures or settings, and it tries to avoid alignments around political issues while acknowledging differences. Psychology and national development is focused on the analysis of complex phenomena, on screening the latent causes of

behavioral, cognitive, emotional, or social patterns, and it welcomes the challenge of analyzing political conflicts and their impact on individuals and society.

A typical example of these differences may be detected by a content analysis of congresses sponsored by the Interamerican Psychological Society (IPS) before and after 1980. In the 1960s and 1970s the program dealt mostly with cross-cultural and language comparisons between North and South American countries. The influence of what has been called 'liberation theology' and the bankruptcies of military regimes changed the perspective. The focus of attention moved towards using psychology to understand problems in daily living; unfairness and injustice affecting second-class citizens, aboriginal people, and impoverished masses; dilemmas, threats, and vested interests obstructing or favoring societal progress, and personal growth or family well-being. Another example can be observed by analyzing the focus at the European Congresses of Psychology sponsored during the 1990s by the European Federation of Professional Psychologists Associations (EFPPA, <http://www.efppa.org/>). Before the fall of the Berlin Wall, there was a prevalence of papers analyzing cross-cultural differences between Eastern and Western European countries; papers prevailed analyzing the consequences of political and economic transition from real socialism to capitalism or liberalism.

There is a trap set to scholars trained in developed countries when they return home. Many of them try to transfer what they have learned. Only a minority develop indigenous models and methods adequate to deal with current challenges and problems requiring a sound psychological approach adjusted to the near by surroundings (Kim & Berry, 1993). Their contributions actually facilitate and impend progress in developing countries. Their ideas are shaped to meet the societal demands. A good example is the contribution of Jyuji Misumi to Japanese management techniques. His research on group dynamics and small group processes was welcomed by many businesses and industries to increase production and quality.

Further information concerning new trends in the analysis and follow-up of psychological contributions to national development may be found at the Society for the Psychological Study of Social Issues (<http://www.spsai.org/>), the APA Division 52 of International Psychology (<http://www.tamu-commerce.edu/orgs/div52.html>) and the Society for the Study of Peace, Conflict and Violence, APA Division 48, Peace Psychology (<http://moon.pepperdine.edu/~mstima/PeacePsychology.html>); see also Chapter 27 in this Handbook.

Community Psychology

Health and social problems quite often come together and then it becomes somehow artificial to approach and treat each facet separately or to focus the attention only on the individual. Community psychology addresses both well-being as well as health issues, combining social and institutional perspectives and highlighting the importance of social systems and environmental influences for enhancing wellness. The initiative may be transferred to the hands of direct or indirect relatives, to the solidarity of people suffering a similar problem, to certain degrees of empowerment in delicate circumstances, to psychosocial feelings of identity, pride, and dignity present in the community. Community research and action sometimes is the point of departure for a reactive and curative outlook or for a proactive and preventive reorganization in normal or abnormal courses of events. It is also a matter of switching to a scientific or a technological way of understanding and outreaching health and social well-being issues and dilemmas.

Since the mid-1960s, community psychologists have developed a large and diversified set of procedures and techniques to analyze, evaluate, and intervene in complex and dynamic processes favoring or obstructing the quality of life and the well-being of groups and individuals in a given community (COP, 1998). There are several purposes to this subspecialty: (a) increasing the awareness of the people involved; (b) training them in those skills, strategies, and competencies that are helpful when they analyze delicate social realities or when they try to find adequate solutions; (c) predicting and reducing the probability of high-risk situations for some members of the community; (d) providing additional institutional and welfare support where needed. Community psychologists attempt to prevent problems from occurring in the first place or where they have appeared, lower the risk of their negative impact on individuals, families, and community groups.

Community psychologists intervene with community members, caregivers, individuals, and families of groups of people in distress such as: (a) minors requiring an analysis of sensitive circumstances and a support to overcome severe weaknesses or conflicts in the family, launching programs of adoption, family and foster care; (b) aging men and women and their caregivers needing to make the decision whether to live alone or with partial or complete assistance in geriatric units; (c) people evidencing challenges from disabilities or deficiencies needing psychological training to deal with daily life as well as occupational issues and designing programs to

promote the acceptance and the integration of these persons in the school, the workplace, the community; (d) women requiring special aid programs to guarantee the fulfilment of their human, civil, or social rights; (e) young men and women in transition from the educational to the occupational setting, needing orientation and guidance to deal with sensitive issues such as crime-prevention, school-failure, drug-addiction, sexual life, suicide, healthy attitudes, and behavioural patterns; (f) ethnic minorities, immigrants, and refugees requiring programs to deal with the psychological consequences of their exclusion from a given community and their integration in that or in another community; (g) drug-addicts, granting them ambulatory care as well as hospitalization, assessing their progress in the process of recovery, supplying support and training to their relatives.

Community psychologists use methods such as need analysis, group counseling, group problem-solving, family counseling and therapy, program evaluation, transaction and mediation as well as arbitration, surveys and inventories, discussion groups, the Delphi technique, behavior mapping, cognitive rehearsal, successive approximations, and the like. The kind of functions they perform in the organizations where they are employed may identify them as consultants, advocates, agents of change, supervisors of programs, facilitators of community enhancement processes, program managers and evaluators, designers of training and development projects, or even epidemiologists. There are major differences among countries and governments concerning the acceptance, support and feasibility of community psychology plans, actions, and involvement.

Democratic societies, where policy makers highlight mainly civil rights, devote less attention and financial support to these programs than those where policy makers endorse formally both civil and social rights. Theocratic societies sanction such programs under the heading of charity and beneficence or by allocating them to charitable institutions. An updated overview of this discipline by subjects as well as by countries has been edited by López-Cabanas and Chacón (1997). Communist societies have considered these kinds of programs rather irrelevant, usually making a passing reference within broader and generic schemes of policy-making in the country.

Further information concerning new trends in community psychology may be found online at: <http://www.apa.org/divisions/div27/> (Society for Community and Research Action), <http://www.geocities.com/CollegePark/Library/3543/contact.html> (community psychology web ring), <http://www.cmmtypsych.net/> (community psychology net), and <http://www.wiley.com/journals/casp/>

Home.html (community and applied psychology journal).

Economic Psychology

The expression 'Economic Psychology' can be traced back to 1901, because it was the title of the course taught by G. Tarde at the University of Paris and published the following year. The expression 'The Psychology of Advertising' was the title of an article published in 1900, by H. Gale, from the University of Minnesota. W. D. Scott was the first psychologist, specializing in advertising psychology, employed by a publishing firm also in 1901. In the 1920s, John B. Watson (1878–1958), the founder of Behaviorism, was hired by a cosmetic firm to work in the area of advertising and marketing research, once he was forced to abandon the direction of his laboratory at the Johns Hopkins University because of the aftermath of a love affair. It is clear that this has been one of the pioneering fields in moving applied social psychology to a scientific or a technological frame of reference. In 1981, the *Journal of Economic Psychology* was launched, becoming the main forum.

At present 'economic psychology', 'consumer psychology', 'business psychology', 'marketing psychology' are viewed as different titles identifying a sphere of research and intervention within the realm of the acquisition, management, and distribution of wealth. The focus of analysis is economic behavior, studying its antecedents, and forecasting its consequences (Van Raaj, 1999). Another perspective heightens 'economic psychology' as the broad trade name for applied social psychology because it establishes the comprehensive framework. 'Homo economicus' is the subject who borrows, buys, earns, donates, exchanges, gambles, invests, lends, saves, spends, transacts, and works. Under this premise, economic psychology would be considered the trunk and each discipline a branch focused on a specific range of inputs and outputs in real life issues and dilemmas affecting human cognition, emotion, and behavior.

In this chapter, however, economic psychology is just used as the label for a specific discipline. It studies how people are influenced by the economy and what psychological processes are involved in the economic behavior of people when they make decisions looking for a better quality of life and increased well-being. The psychologists practicing in this field analyze and follow up (a) beliefs, values, preferences, attitudes, choices, plans, purposes, and factors underlying the economic behavior of citizens, producers, and consumers; (b) the consequence of foresight, decisions, pressures, oscillations,

and legislation influencing or shaping the economic behavior of citizens, producers, and consumers; (c) the inducement and satisfaction of economic needs and goals among producers, citizens, and consumers.

The main areas of psychological research and action in this discipline can be organized in three categories:

1. The analysis of individual as well as family members' behavior in the role of consumers. The main subjects are the study of psychological factors and processes underlying the choice of goods and services, the loyalty to brand names and trademarks, the usefulness of the information and its understandability, complaints and reputation damage, suitable and satisfactory purchases, savings and investments, borrowing and over-indebtedness via credit cards, risks, and mortgages, insurance policies, testaments, and beneficiaries.
2. The analysis of entrepreneurial initiatives, strategies and action to introduce, maintain, or increase the presence of goods and services produced in the national or the international market. Some of the main subjects approached are sales strategies, advertising campaigns, investment plans, returns and refunds, price control, start-up competency profiles, and decision making inside and outside the firm.
3. The analysis of the economic behavior and attitudes of citizens concerning payment and evasion of taxes, periods of inflation or depression, reaction to economic measures or norms, unemployment subsidies, use of social funds, corruption and public funds squandering, and compulsive gambling.

There is a bias towards psychological studies focused on the micro-economic level, which permits keeping a certain distance from studies at the macro-economic level, preferred by sociologists and economists.

Economic psychologists use experimental designs such as single and double blind to test specific attributes or perceptual aspects of a product as well as trademark loyalty. Experimental designs are also used to ascertain price discrimination among similar goods of different sizes, to fix the typography and colors used or to maintain a balance between fashion and ergonomics in the design. The impact of an advertising campaign may be contrasted through pre-test and post-test designs. Sales force allocation schemes also have been validated experimentally. Survey researchers use cross-sectional studies to compare, for instance, potential customers contacted by phone, by mail, or face to face in the street, or to compare different modalities of

items or of wording. In a similar vein, survey researchers also use longitudinal studies of a panel of consumers' or retailers' meetings. Observational methods are also used to record consumer behaviors, for example, in a shopping center, by using video cameras, creating artificially hot and cold points of sale, or measuring the after effects of a promotion in several shops. Pseudo-sales are used to test the effectiveness of training programs among vendors, to identify regular customers, or test the adequacy of customer service department. There is a technique known as 'dustbin check' that contrasts items marked by customers in a survey and what is found in the garbage can.

Economic psychologists use various techniques such as questionnaires, surveys, behavior ratings, semantic differentials, the contents of shopping carts, and word-building tests to gather and analyze quantitative data. But they also use interviews, group discussions, behavior records, projective techniques, shopping lists, word association tests, protocols, and agendas to gather and analyze qualitative data. Sophisticated electronic tools, such as cookies and bootstrap tracers, have been developed to continue gathering data on consumer behavior online via the Internet.

Economic psychologists are often employed to fulfill several functions such as managers and consultants in the area of consumer analysis and marketing, in the role of program designers, researchers, program evaluators, developers of products and strategies, and advisors assessing needs and addiction patterns. Antonides, van Raaij and Maital (1997) summarize the state of the art of the discipline and describe new advances and challenges in a large number of sectors. Further information concerning new trends in economic psychology may be found online at: http://cwis.kub.nl/~fsw_1/eco/links.htm (economic psychology links), and <http://www.eiasm.be/iarep.html> (International Association for Research in Economic Psychology, IAREP).

Political Psychology

Political Psychology and Social Defense was the title of the book published in 1910, in France, by G. Le Bon who supported the idea that the core issue of study in political psychology is the knowledge of how to govern people. Le Bon believed that the masterpiece and essential textbook for the discipline was Nicolo B. Machiavelli's *The Prince* published in 1532. In a similar vein, G. Wallas published in the UK in 1914 a book entitled *The Great Society: A Psychological Analysis*. In the US, H. D. Lasswell is considered the father of political psychology after the publication of his book on

Psychopathology and Politics which had a strong influence from psychoanalysis.

There have been a large number of recurrent subjects described by researchers and practitioners, which concern the political functioning of individuals as well as groups. Cognitive theory, psychoanalysis, and learning provide the background for four out of five researches published in the main journal of the field, *Political Psychology*, launched in 1980 (Boehnke & Bar-Tal, 1998).

Shifts in public opinion, belief, and value systems in a country or its evolution during periods of political transition have become classic. The analysis of political discourse, propaganda, and affiliation has also had a huge impact since latent ideologies and manipulation strategies have been used. There has been continuity in analyzing the influence of mass media in short-term opinions and attitudes, in long-term cognitive effects, and in beliefs and representation schema. The study of leadership and participation issues concerning motivation, power and influence, identification, self-esteem, and decision making has been frequently examined. Within the context of industrial democracy, for instance, some of the leadership and participation studies in work settings contributed to the dialogue between Eastern and Western European countries (Wilpert, Kudat, & Özkan, 1978) and some of them continue doing research on the psychological aspects present in the transition from 'real socialism'.

Studying the normal and abnormal personalities of political figures has been another target, paying some attention to the emotional catharsis generated in the general public by details of their private lives, for instance a wedding, a scandalous love affair, or a sudden death. The socialization process of making political choices, electoral preferences, and voting behavior has also been a favorite topic to study.

The issue of corruption in the government has been studied by psychologists as a situational phenomenon, usually looking at the behavior as a set of factors and circumstances favoring dishonesty and outlaws in sensitive affairs decided by top policy makers in both public or private institutions, but also in sensationalizing daily life affairs. The focus is on behaviors, situations, beliefs and values, and social perception of morally correct and corrupted conduct. The situation may prove to be both a criminal event in the biography of a leading figure or party but also a psychosocial failure for the society itself, causing them to give up hope.

Issues such as ethnocentrism, racism, nationalism, separatism, terrorism, and the interplay between majorities and minorities have been also

approached, contributing to an in-depth understanding facilitating the planning of actions for peacemaking and peace building. Comparative studies on Puritanism, tolerance, and privacy in Anglo and non-Anglo cultures, in democratic or theocratic societies, in rural and urban milieus have been examined. The role and public image of governmental versus non-governmental agencies in dealing with aid programs dealing with refugees, war victims, and survivors of natural catastrophes is an increasingly popular subject area here. Delinquency and right-wing extremism in advanced societies have attracted attention under a preventive perspective.

Methodologically, political psychologists make use of a large number of techniques such as surveys, experiments in the laboratory, outdoor quasi-experiments and field studies, simulations, games, interviews by phone, attitude scales, content analysis, case studies, and psychoanalytical re-interpretation of leading figures. They switch both to a scientific and a technological way of studying the political life, trends, and events.

A controversial subject is the issue of using psychobiographies of leaders, a genre launched by Sigmund Freud in 1910 with his study of Leonardo da Vinci. This was followed by a psychological analysis of Moses, and then Eric Erikson published his analysis of Martin Luther as a young man in 1958. Since then, there have been many other retrospective and historical psychological studies of well-known public figures such as Hitler, Gandhi, and Robespierre, just to name a few. Some of these psychoanalytical biographies of historical figures or psychopathological assessment of contemporary political leaders have become best-sellers, drawing public attention to the field, but this genre of psychobiographies has also brought some strong discredit to the discipline within the scientific community (Jiménez-Burillo, 1996).

The 'case study' technique has been used to recount notorious failures in politics, such as the Group-thinking syndrome in the Bay of Pigs crisis, and the irrelevance of highly reliable sources in the decline of the Shah Reza Pahlavi or in President Nixon's impeachment process. These were post hoc studies with the purpose of learning through the analysis of mistakes. This genre has been welcomed and even gained reputation within the scientific community.

Further information concerning new trends in political psychology may be found online at: <http://ispp.org/ISPP/> (International Society of Political Psychology), <http://www.pr.erau.edu/~security/> (International Bulletin of Political Psychology), and <http://www.polisci.umn.edu/polipsyc/index.html> (Center for the Study of Political Psychology).

Sport Psychology

The first World Congress on sport psychology was held in Rome, in 1965, and this event was a milestone. Also, the International Society of Sport Psychology took off. However, pioneering psychological research may be traced back to 1895 when tests of reaction time were used by G. W. Fitz to predict sporting abilities and trainability. Studies on the influence of competitors' presence in the performance of cyclists or the influence of athletic activities in the character of children in reform school were performed between 1898 and 1900 in the US. Similar approaches were launched in Europe, where P. Jusserand published a book on the psychology of football in 1901 and in 1913 Baron Pierre de Coubertin, father of the contemporary Olympic Games, published his first collection of essays on sport psychology.

The subjects in the variety of psychological studies carried out are not only about the sportsmen and women (both professional and amateurs), but also coaches, referees, managers of clubs and sport federations, and audiences. Sport psychologists examine the past and present performance of individuals but also the past and present interactions that occur among stakeholders in sporting events and settings.

The following areas of study have helped shape the field of sport psychology (COP, 1998): (a) the role of psychological factors involved in the personal growth and peak performance of sportsmen and women as well as sportsmanship; (b) the role of motivational factors and learning experiences in the interactions held between coaches and sportsmen and women as well as coaching effectiveness; (c) the role of cognitive and sensorimotor factors influencing the interpretations and decisions made by referees; (d) the role of organizational and management factors favoring or obstructing sport activities and interest; (e) the role of the spectators and fans as facilitators or as troublemakers in stadiums, stressing the analysis of mobs and violence; (f) the positive or negative psychological consequences of success, failures, or injuries among men and women performing physical exercises or participating in sport activities as a hobby, as maintenance, or as fitness during their life-span; (g) the usefulness of sports and physical exercises as a therapeutic resource for people with certain disabilities or handicaps and in the clinical practice.

The analysis of individual differences to identify the personal characteristics and cognitive styles of successful sportsmen and women took the lead in the discipline until the 1960s:

the output was a list of traits and tests considered useful to assess and sponsor potential top performance athletes. In the 1970s the study of psychobiological factors prospered by paying attention to bio-electric potentials and biofeedback, chemical changes induced by psychological states, bio-engineering procedures that may enhance sporting performance, as well as to the action of psychotropic drugs in drugged athletes. In the 1980s the cognitive theory of learning stressed the importance of knowing and awareness to maximize sport performance and training. The output was a list of new constructs and original ways of perceiving, conceiving, judging, and imagining sporting situations and events: cognitive maps, cognitive controls, cognitive mediations, cognitive needs, cognitive rehearsal, cognitive restructuring, cognitive schema, and so on. In the early 1990s social learning theory, social-inquiry model, social-exchange theory, and social-comparison theory started to sway and dominate, emphasizing the role of social influences and interactions, the role of reciprocity and expectations of reward, and the comparative worth of sporting achievements. By the year 2000, great strides have been made developing new psychological instruments specific to the sport and exercise environment, setting aside generic assessment instruments, not sensitive enough to the demands of sport. The use of virtual reality in implementing visualization and modeling training is another advanced technological innovation.

The fall of the Berlin Wall brought an unexpected finding. For years it was considered that the high performance of athletes nurtured and trained inside communist countries could be attributed to advance programs of psychological support developed ad hoc and in secrecy. This account was based on well-known early findings of A. Puni and P. Rudik during the 1920s and the creation in 1930 of a Research Institute of Physical Education in Moscow. There were very specific findings concerning individuals or teams that were rarely generalizable to other groups of athletes. The salient presence of sport psychologists in a large expedition of technical personnel appears to have been overestimated because if they did exist, they were conspicuous by their absence in other national expeditions of experts.

Sport psychologists use experimental designs in the laboratory to isolate psychobiological factors, cognitive processes, and specific characteristics of peak performers. They also use field studies, surveys, games trainers' play, panel groups, and so on to observe and describe deeds and accomplishments in the gymnasium and the stadium. They perform psychological assessment using questionnaires, tests, interviews, self-

observation and self-report inventories, psychophysiological protocols, and reconstruction methods, combining scientific and technological backgrounds in procedures and tools.

Sport psychologists are employed by clubs, federations, or institutes to perform several functions and responsibilities. They know how to optimize competence and performance among sportsmen and women. They assess them, design treatment compatible with training protocols, do research, give expertise to coaches and other staff, and assist the athletes when dealing with the mass media and when adjusting timetables and agendas during long-term training periods. Psychological expertise may also facilitate the transition of athletes from the challenges and pressures of peak performance to those of a normal life, which is a quite delicate period if they have been involved in the front line of gold medals and awards. Models and methods used in industrial and organizational psychology are also used to understand sporting organizations and the managerial role of coaches.

Sport psychologists also know how to assist children and teenagers in the process of becoming involved in sports as play. They take advantage of psychological knowledge in the area of human learning, motivation, and satisfaction. They assess relatives, coaches, physiotherapists and other technical staff, and policy makers, paying special attention to transitory disabilities or permanent handicaps. In a similar vein they may advise people to participate in sport activities in their leisure time to help overcome drug-addiction, alcoholism, depression, anxiety or stress, sleep disorders, obesity, and a sedentary lifestyle to adopt maintenance, fitness, or rehabilitation. The contribution of sport psychologists has also been welcome in the design of campaigns promoting sport activities in the community and in redesigning indoor and outdoor space used by sports enthusiasts, taking into consideration age differences, handicaps, and disabilities. A conventional activity is the organization and development of training programs and seminars addressed to the stakeholders of the sport activities.

The Achilles' heel of sport psychology may be its visibility in the mass media. Journalists tend to oversimplify when trying to understand what happens in the arena when an athlete succeeds or fails. Quite often interviewees have psychological references on the tip of their tongues and the result is that the expertise of the sport psychologist may be heightened or obscured categorically, without nuances. An updated source for further reading is the book edited by Cruz-Feliu (1997).

Further information concerning new trends in sport psychology may be found online at: <http://www.aaasponline.org/index2.html>

(Association for the Advancement of Applied Sport Psychology), and <http://www.psyc.unt.edu/apadiv47/> (Exercise and Sport Psychology, APA Division 47).

Traffic and Transport Psychology

L. M. Patrizi, an Italian occupational physician, who stressed the importance of testing the persistence of attention, launched the interest in the psychological assessment of tramway and automobile drivers for the first time in 1900. The first regulation of automobile traffic, enacted in Germany in 1910 included several sensorimotor and character traits that were to be examined in order to obtain a driver's license. By 1915 the American Association for Labor Legislation invited Hugo Munsterberg to design a procedure to assess the 'mental disposition and psychic tone' of tramway drivers. The conclusions and findings gained at the end of the 2nd International Congress on Psychotechnics held in Barcelona in 1921 were included in the traffic rules enacted by the Mayor of Barcelona a few months afterwards. This resulted in every tramway and taxi driver having to pass several psychological tests. Probably this was the first time that psychological findings were adopted immediately into a rule promulgated by local authorities.

There are two ways of seeking information in this discipline: the prevention of accidents or the effectiveness of driving performance. These must be understood as complementary expressions of the contributions expected from psychologists involved in this area. Both are two sides of the same coin. The more conventional approach has been the compulsory psychological testing of professional drivers who are recidivists in traffic accidents. Spain seems to be the only country where psychological testing is obligatory to obtain or renew the drivers' license. More advanced approaches in preventing traffic accidents have included their analysis using the study of biases induced by reporting procedures, ways of optimizing the reconstruction of events and the understanding of how witnesses or victims account and recall what happened, and the improvement of emergency care assistance and rehabilitation programs geared to the victims and survivors.

In a similar vein, the influence of drowsiness, fatigue, emotional states, and other reactions including alcohol or tobacco consumption, drug-addiction, and prescribed drugs on traffic safety have been also studied. New technologies introduced on the road and streets, the design and redesign of infrastructures, the ergonomic

design of vehicles, the adequacy of sign-posting and lighting have been also studied, taking into consideration vision and human perception, motor reactions, and decision making while driving.

Psychological models have been examined and used to improve programs of educational safety among children and teenagers that deal with their behavior as passengers, pedestrians, or bikers. Advertising campaigns concerning safety in the road and the street have been analyzed and improved through the use of psychological hints and contributions.

Traffic psychologists are employed by driver assessment centers, clinics devoted to the recovery of accident victims, driving schools, training centers for professional drivers, insurance companies, railway and bus companies, governmental agencies, and traffic research centers. Some psychologists have designed workshops to deal with fear of flying which have obtained the financial support of airlines. High-speed trains have also used the contribution of psychologists to assess cognitive and behavioral patterns detected among engineer drivers when facing an absence of stimulation in highly automated trains. An overview of how this field has been developing during the last decade is summarized in the book edited by Montoro-Gonzalez, Carbonell-Vaya, Sanmartin Arce, and Tortosa-Gil (1995). This is a field where the technological and short-term perspective prevails over a long-term and scientific strategy.

Further information concerning new trends in traffic psychology may be found online at: http://www.surrey.ac.uk/Psychology/Traffic_Psychology/ (IAAP, Division 13, Traffic Psychology), and <http://www.soc.hawaii.edu/leonj/leonj/leonpsy/traffic/tpintro.html> (traffic psychology at the University of Hawaii).

Applied Cognitive Psychology

Many psychology departments, centers, and institutes of applied social psychology around the world regard themselves as focused on the study of processes such as attention, perception, learning and memory, and the identification of structures and representations that facilitate or impede the satisfactory functioning of the human mind in action. Today, this field has numerous connections with information processing, cybernetics, and information technologies, linking scientific and technological approaches in the study of human behavior and performance.

In 1903 a new term '*psychotechnics*' started to be used by psychologists when they referred to applications of sound psychological principles in the cognitive and emotional capability

or trainability of people. These psychologists used their expertise to develop advanced ways of handling, controlling, or improving human performance in the workplace, educational settings, and in the prevention of accidents. They devised and employed innovative techniques that were a forerunner of personnel assessment, guidance, training, and safety at work. If the focus of analysis and intervention was on the moldable plasticity of the individual, the approach was better known as *subjective psychotechnics*, which is the attempt to figure out how to adjust the individual to the job. If the focus was on the multifaceted 'shapeability' of any situation to actual or potential incumbents or clients, *objective psychotechnics* was the stage name, stressing how to reshape and redesign the job matching up to the individual.

Both lines of research and action have continued, bringing forth a new specialty under different names such as 'ergonomics', 'cognitive ergonomics', and 'psychological telematics' in Europe and 'engineering psychology', 'human factors engineering', and 'cognitive engineering' in the US. Each name identifies a period, a perspective, and a way of investigating the problems and dilemmas people face when they have to handle new complex equipment. The purpose has been that of understanding and optimizing person-machine interactions, control of human errors, study of human efficiency in working environments, effect of fatigue and boredom in daily tasks, interface between users and computers, compatibility between controls and displays, and elaboration of design guidelines as a cost-effective alternative to long or complex training programs. Human cognition and emotion are involved in the transmission of messages, retrieving online information, determining the presence and location of people or objects, organizing databases, capturing and archiving documents, authoring hypertext documents and multimedia, making calculations, analyzing or broadcasting daily life or workplace events, and problem analysis and decision making.

Although the analysis of information processing in real life settings began many centuries ago, starting with Sumerian cuneiform writing and Egyptian hieroglyphs, at the end of the twentieth century, it continues when people devour the PC screen with their eyes scrutinizing the dynamic and multimedia documents available online. There is an agreement about the label of this new field of research and action, 'knowledge management' as well as 'knowledge engineering'. It is the study of how knowledge is authored, published, catalogued, and recovered online on demand and the study of how net-users reach, manage, and make the most of online knowledge when deciding what must be

done, how, and when. Even in the analysis and follow-up of high-tech crimes, psychological profiling is based upon the cognitive, emotional, and behavioral clues left by offenders.

A second pioneering approach dates back to the second half of the nineteenth century when Gustav T. Fechner (1801–1887) and disciples began to generate standard techniques and measures to study sensations evoked by physical stimuli (Chapter 5). From the very beginning the field was named *psychophysics* and the purpose was to investigate the relationship between a given sensation and the intensity of the eliciting stimulus. The main laws and principles, the large majority of the related measures, the experimental work in the laboratory and the practical knowledge accumulated in real life settings have been in force during the twentieth century as a consequence of its weight and usefulness, for instance, in the food, beverage, and textile sectors. Fechner's notion of 'the just noticeable difference' as the basic unit to measure and discriminate between sensations remains the criterion in the process of creating illusions and persuading potential consumers of the adequacy of certain artificial flavors, colors, or textures produced to look or taste just like similar but different natural flavors, colors, and textures.

Psychophysical methods have been used by some firms in the computer sector to study patterns in visual and auditory information processing to improve monitors, images, sounds, animations, and so on broadcast via the Internet. For instance, advances in virtual reality would be considered not possible from a conventional perspective in the psychological study of human perception: human subjects are used to performing visual rotations of objects up to 180 grades but very rarely up to 360 grades up and down or backward and forward. However this is a common standard accomplished in virtual reality by the touch of a click in the mouse. Many rotations, which are classified as impossible in classical manuals on perception, are a common feature in TV ads, attracting the attention of the audience who are rarely aware that they are viewing special effects. The paradox is that psychophysics nowadays is a very active research area in some corporate research and development departments and consulting firms but not in university psychology departments. They cling to other and more conventional areas of study. Stable and consolidated findings do not attract the attention of those basic researchers who are more concerned with moving beyond the present knowledge and state of the art!

A third pioneering approach was started by Paul Broca (1824–1880) stressing the brain-behavior relationship, a new field, labeled by the middle of the twentieth century neuropsychology

(Chapter 4). The conventional approach has been the careful study of given lesions in specific regions of the brain to find out associated changes in human cognition, emotion, or behavior. Advanced approaches combine, for instance, electrical signals recorded at the forehead to facilitate the monitoring of cursor movements by brain-injured patients. A mental interface device has been developed to allow these severely impaired patients to move around virtually in Internet, whereas they stay in the same physical room. The same basic approach, sometimes combined with video-based eyetracking, is used nowadays to enable individuals with severe speech and mobility deficiencies to communicate and to cooperate with others, an achievement which was absolutely impossible only a couple of years ago. This is only an example of how networked computers are already used as prostheses for people with brain injuries or with functional or organic disabilities. New labels are coming out such as 'Applied Neuropsychology', 'Neuro-ergonomics', and 'Applied Cognitive Bioengineering'.

Networked computers may be used to facilitate psychological and medical assistance to people in isolation in an airplane, to grant the continuous training programs addressed to experts residing in low-income countries, to facilitate interactions and follow-up among teleworkers (Prieto & Simon, 1997). The new generation of online computers may introduce even illiterate people to the new realm of new information technologies at a fairly low cost. It is not only a matter of developing user-friendly techniques, but determination of human limits and potentials driven by the goal of creating interfaces that better suit excellence in human performance. This area uses both on- and off-line computer-based resources and support facilities for designing advanced methods and sophisticated systems to support multiple users interacting and performing complex and collaborative tasks in a world some still consider too artificial and virtual, while others see the genuine and real in a different way.

This is an area where the terminology is still confusing. In the US the expression 'cyberpsychology' has received support among those viewing this label as a blend of cybernetics and psychology and those accepting it as a blend of the cyberspace culture and psychology. In the European Union another expression, 'psychology and telematics' (that is, distant and automatic transmission of digital data) has been coined without too much success. By now, applied cognitive psychology seems to be a compromise expression clearing up the subject.

Further information concerning new trends in applied cognitive psychology may be found on-

line at: <http://rcswww.urz.tu-dresden.de/~cogsci/iaap-acp/iaap-acp.html> (IAAP, Division 14, Applied Cognitive Psychology), <http://info.lut.ac.uk/departments/hu/links/erglinks.html> (ergonomics, resource links), and <http://www.neuropsychologycentral.com/index.html> (neuropsychology central).

26.4 FORENSIC AND LEGAL PSYCHOLOGY: BEYOND DOUBT

The field of forensic and legal psychology has grown dramatically as an applied field of psychology since the early 1900s when social psychologists began studying the behavior of individuals or groups who deviate from societal norms. The field of criminology, which first encompassed this research on deviancy, gave rise to the broader applied psychology field that deals directly with the entire interface between psychology and the law, commonly called forensic or legal psychology. The fields of social, experimental, and clinical psychology interact together with the law in forensic psychology. Since the early 1970s, the field of forensic psychology has developed into a major area of research and practice for psychologists in various parts of the world, switching to the scientific or to the technological perspective. Sustained research efforts in some areas, such as perception and eyewitness testimony or the perceptions of credibility, increased significantly. In many countries, the recognition of the usefulness of clinical and social psychological expertise in the courtrooms and the admissibility of expert testimony from psychologists to assist in applying legal standards has made major gains over the preceding decades. Techniques such as psychological assessment, measurement of competency and insanity, and prediction of dangerousness, utilizing the many studies on deviancy and criminology have been modified for forensic use. A set of guidelines for the forensic psychologist has been promulgated by the American Psychological Association's Division 41, the Society for Psychology and the Law (APA, 1991), and the Division of Forensic Psychology at the Spanish Psychological Association (COP, 1998) (<http://www.apa.org/div41> and <http://www.cop.es/perfiles/>).

More and more, psychologists and attorneys have found some psychological issues to have a common relevance. An illustration of this rapprochement between both disciplines is the fact that in recent years, many of the better known universities (in the USA and certain Canadian provinces, for instance) are now offering students either the possibility of entering a

joint program in psychology (Ph.D.) and in law (J.D.). Another modality is a subspecialty area in clinical and professional psychology training programs, for instance at the Spanish Psychological Association (SPA). Considered a specialty encompassing both science and practice, the forensic psychologist can obtain diploma credentials and contribute to the research in the area of psychological jurisprudence.

Brief Historical Perspective

Ever since Hugo Munsterberg published in 1908 his provocative best-seller *On the Witness Stand*, forensic psychology has become a subject of interest in affluent societies. The field developed slowly at first, partly because of the differences in methodology and partly because of the difficulties that the legal profession initially had toward this perceived intrusion into their territory (Bartol & Bartol, 1987). In the 1920s a psychologist, Donald Slesinger and a lawyer, Robert Hutchins, published numerous papers on legal psychology together and thus began changing the initial hostile relationship between psychology and law.

In Europe, during the 1900s experimental psychologists such as Alfred Binet in France, William Stern in Germany, and Francisco Santamaría in Spain became interested in the psychology of testimony. They replicated separately the first known forensic experiment that had originally been conducted in the United States by James McKeen Cattell in 1895 dealing with the specific conditions explaining how testimony can be inaccurate. Stern later proceeded to establish the very first journal dealing with forensic issues, and more particularly with the psychology of testimony. This journal broadened its scope and in 1908 became the first journal of applied psychology in German. Santamaría lectured and researched on psychology at the School of Criminology of the University of Madrid. During the same period, psychologists in several European countries also were being asked to become expert witnesses and to testify in criminal cases both on matters of fact and on matters of opinion.

Psychologists differ from other 'fact' witnesses in that they are usually able to offer their 'opinions' that are based on the facts. Obviously, the psychologist's interpretation of the facts that become opinion is designed to influence the jury's findings, an observation that has to be considered when the court decides whether or not to admit such expert testimony in a particular case.

Clinical psychologist Grace Fernald and psychiatrist William Healy established the first

clinic in the US for youthful offenders in 1909. At the request of the criminal justice system and the courts, other psychologists were developing mental tests to administer to criminals and delinquents. Mental testing also became one of the main screening devices used in the selection of police officers.

Mental measurement was not the only area of interaction between psychology and the legal system, especially in Europe. For instance, during the early 1910s Professors Karl Marbe, at the University of Wurzburg, and Luis Simarro, at the University of Madrid became the first experimental psychologists to testify in a civil suit.

Only after World War II have psychologists become recognized as expert witnesses on the US legal scene, although there were some unsuccessful attempts to get psychologists admitted to give testimony as early as the 1920s. In 1954, there were two important cases that opened the door even further. In the first, *Hidden vs. Mutual Life Insurance Co.*, psychological expertise was welcomed in a civil case and the psychologist permitted to give his opinion on the mental status of the plaintiff. In the second, a crucial case in the legal struggle against school segregation, *Brown vs. Board of Education*, psychologists and other social scientists were allowed to testify after a bitter debate. The best-known contribution to this trial was Kenneth and Mamie Clark's presentation of the results of their famous doll experiment on the effects of segregation. This case made it clear that the scientific and technological research provided by psychologists was an important addition to the clinical findings of psychiatrists.

The Areas of Psycholegal Research

Kagehiro and Laufer (1992) made an informal content analysis of the major journals publishing psycholegal work and noted that almost one third of all the articles published dealt with either expert witnessing, jury decision making, and eyewitness testimony. Empirical research published could be subsumed under two categories: mental health and court-related processes.

Jury Selection and Jury Dynamics

Starting with the pioneering efforts of Marston in 1917, the jury decision-making process and its offshoot, the jury selection procedures, has been one of the most frequently studied areas in legal psychology, despite the observation that in the real world, trial by jury is a rare event from a statistical perspective.

There has been an extensive body of research on the efficacy of different types of juries

around the world, often using experimental analogue studies to help understand the psychology of juries and how they weigh evidence. The fact that the dynamics of jury deliberations can usually be understood by social psychological concepts and theories related to the functioning of small groups and persuasive communication strategies, probably explains why this area is of particular interest to psychologists.

Modern American research on the jury system actually begun in the 1950s with what came to be known as the Chicago Jury Project. Since, traditionally, jury deliberations are held 'in camera' (behind closed doors), researchers on this project actually obtained permission from the judge and attorneys to secretly record the deliberations in several civil cases. However, when this became known, public opinion indicated outrage and the issue was eventually debated before the influential U.S. Senate Judiciary Committee. Many states enacted laws forbidding the recording of jury deliberations even for research purposes. So, in view of the limited access to jurors and to ensure the proper study of jury dynamics, new techniques, such as archival methods and jury simulation with mock cases, were developed and frequently used in the decades that followed.

A substantial amount of research around the world has been conducted to specify the impact of the individual differences of jurors on their verdicts and to look at ways of improving the jury-selection process. Most of the practitioners who consult in this area believe that they are more successful in eliminating those prospective jurors who would not render a good verdict for their client rather than in choosing those who would be sympathetic and vote to support their client's position. Many think that there are very few modest or inconsistent effects (related to demographic or personal factors) that can actually be used for prediction purposes, thereby limiting the potential impact of psychologically related selection strategies on the outcome of a trial. Others argue that good strategies can be developed from juror characteristics and successfully used to enable the prediction of verdicts.

In a number of studies, a positive attitude towards the death penalty has been shown to be associated with a greater likelihood of convicting the defendant. Also, it has been shown that a specific attitude towards one element of a case, for example about sexual abuse when listening to a rape case, can have a strong predictive value. In the Netherlands, for example, there has been research to show that police officers and mental health professionals have very different attitudes towards crime prevention. The police believe that punishment has more of a deterrent

effect while mental health professionals stress the efficacy of rehabilitation. In a Canadian study that concentrated on the impact of introducing no evidence, general social science evidence, and psychological evidence of the individual person on juror's decisions, it was found that those who had both clinical and research evidence were most likely to find battered women who killed their partners not guilty by reason of self-defense (see Kagehiro & Laufer, 1992). The follow-up on the National Jury Project suggests that in civil cases, the views, either of personal or social responsibility, expressed by the jurors to explain their attribution to individuals or to environmental/social factors for adversity, seem to be related to the verdicts.

The direct involvement in the early 1970s of sociologists and psychologists in the Harrisburg Seven Trial, the first 'political' trial during the Vietnam War years, opened the way to 'scientific or systematic jury selection'. Methods, such as public opinion surveys, juror profiles, rating of non-verbal behavior, were developed to help attorneys select jurors. These techniques, which have since been technologically refined and elaborated, have been successfully used in many trials, but still remain quite controversial. Whereas lawyers and their clients are generally satisfied by the advantages they believe are associated with using these methods, many psychologists believe that the claims of their effectiveness have generally been exaggerated, notwithstanding the fact that under certain circumstances psychologists can be useful in trial preparation and jury selection.

Some of the very exciting research work that has been conducted in recent years has dealt with the development of jury decision-making models. Many of these theoretical models (such as the information integration theory, the Bayesian approach, the story model, the algebraic model) have generated important research efforts and the results obtained help us better to understand juror decision processes. With the refinement of statistical analysis procedures, virtual reality developments, and the sophistication used in data gathering, there is no doubt that effectiveness will improve and that research should continue to monitor this important area of application.

Eyewitness Testimony

It is well known that eyewitness testimony is one of the most powerful types of evidence that can be introduced in the courtroom and that it is the single most important factor responsible for convicting an accused person, rightly or wrongly. In recent years, some excellent reviews have been published (Cutler & Penrod, 1995;

Pope & Brown, 1998; Ross, Read, & Toglia, 1994) that we strongly recommend to the interested reader.

When evaluating the accuracy of the eyewitness, it is common to examine the conclusions drawn to the three different stages of the memory process, pointing along the way to the factors that impact the level of accuracy.

1. *Acquisition*: During the acquisition stage, many variables can affect the encoding of eyewitness memories including both characteristics of the event itself and those related to the witness. A better opportunity to observe the event and a longer exposure time yields a stronger relation to memory accuracy. But this relationship tends to be moderated by the increased complexity of the scene observed, or by the presence of an important element, such as a weapon or blood, that draws the attention away from a critical item, such as the face of the perpetrator. Strong and reliable differences have been found in studies conducted on the effects of cross-race identification. The main conclusion is that own-race recognitions are more accurate than other-race identifications.
2. *Storage*: The storage phase of the eyewitness memory trace, i.e., the interval between the end of the encoding and its subsequent access, has also had extensive research conducted on the impact of misleading verbal information on witness recollection that is often called 'the misinformation effect'. This research suggests that new information given at the storage stage can certainly influence the accuracy of the report of the witness.
3. *Retrieval*: Finally, during retrieval, the witness is asked to recollect the initial event with as much precision as possible. Research here has concentrated on finding ways to enhance this retrieval process. Many potentially helpful techniques or enhancement procedures have been examined, like for instance, hypnosis, guided memory, and recent refinements of this latter procedure such as the 'cognitive interview'. Studies show that while hypnosis does not appear to facilitate recognition performance, it sometimes helps promote eyewitness recall. On the other hand, the cognitive interview approach does appear to provide better recall for details, in some studies 40 to 45% better recall, but does not seem to influence face recognition.

The main findings of studies carried out in the laboratory have yielded the identification of potential biases, related to (a) lineup instructions, (b) quality and number of foils, (c) effect

of clothing, (d) the type of presentation (simultaneous or sequential), and (e) the investigator. Biased lineup instructions, for instance, can have a profound effect on false identification rates, and sequential presentation of suspects yields much better results in terms of correct identifications than the traditional simultaneous presentation.

The application of these laboratory findings to legal situations have been less helpful when attempting to measure the credibility of witness memories when violence or abuse is experienced. This is especially true for children's memories of sexual abuse. Often clinicians around the world have found that victims of violence (particularly those who have been repeatedly abused by family members or those in a position of authority and trust) sometimes do and other times do not remember what happened during any particular incident. Researchers state that repressed memories of trauma do not fit the memory acquisition model described above and demonstrate by analogy studies of traumatic but non-abusive experiments that it cannot happen. Therapists, on the other hand, state that variability in memory for some traumatic events does occur and is even observable during treatment and therefore, insist that it does happen and in fact, is a sign of the credibility and authenticity of the reports. New research on the physiological effects of trauma including the impact of the biochemical secretions at the time of the abuse indicates that the cognitive model of memory storage and retrieval is not appropriate under these conditions, especially if the events are perceived as life-threatening rather than just unpleasant or traumatic without the threat of survival to the person.

Factors Affecting Juror Belief

The believability of jurors regarding eyewitness testimony can be affected by witness confidence, memory for peripheral details, cross-examination, and witness age. The most potent influence undoubtedly comes from witness confidence. The fact that a particular witness indicates during his or her testimony that he or she is absolutely certain that the suspect is the guilty person has an enormous influence on the jurors. For most people, eyewitness confidence is the single most important predictor of identification accuracy, even if research has shown that confidence in one's ability to make a correct identification is usually a poor predictor of the accuracy of the identification; meta-analytic studies show correlations that range from .00 to .25.

Usually, the more an eyewitness provides specific details, even peripheral and unimportant

ones, the more people are convinced about credibility. But some researchers have found that people believe that eyewitnesses who pay attention to trivial details were less likely to have paid proper attention to the face of the suspect!

What happens if an efficient attorney discredits an eyewitness during cross-examination? The classical study conducted by Loftus in 1974 found that cross-examination completely discrediting an eyewitness (e.g., indicating that he had very poor vision and was not wearing his eyeglasses at the time of the event) did not do very much to alter the conviction rate (68%) by comparison with the unchallenged presence of an eyewitness (72%). Both these conditions differed significantly from the mere presentation of circumstantial evidence. Replication studies conducted more recently did show that a good cross-examination can significantly reduce the conviction rate.

A substantial number of studies have examined the effect of the age of the witness, with an emphasis on looking at how well children remember and what effects their testimony has on jurors. It was found that correct identification improved with age, while false identification declined. However, many studies have shown that children's skills at observation and memory are not as defective as was thought. Moreover, their suggestibility seems related to particular situations and styles of questioning. When studies on people's perception of children's testimony are reviewed, little about the credibility of children's testimony can be concluded. It seems that the individual differences related to the perceived competence of children, as well as their quality of verbal expression is most important.

Applications to Practice: Expert Witnesses

Memon (1998) suggests that the increase in the use of experts is directly related to the research in forensic psychology that shows that both the inquisitorial and adversarial methods of presenting evidence, which permits vigorous cross-examination, prevents the expert from being more believable than other witnesses. The adversarial method is more common in those countries that follow the British Common Law and the inquisitorial mode prevails in those countries that follow the Napoleonic code. In the adversarial mode, it is critical for the psychologist to remain objective during the assessment phase to avoid even the appearance of bias during the testimony phase of trials (Walker, 1994).

Qualifying an expert witness before testimony is given has been a requirement of the courts

where the judge may not have appointed the psychologist, although where juries are the decision-makers, it is common for experts to try to impress them by reciting their qualifications prior to their testimony. In the US, the Frye test has been used to qualify experts, named after the case that created its standards (Frye v. US). The judge is expected to rely on the scientific credibility of the expert's testimony based on a consensus of the relevant scientists, usually using publication of psychological research or opinions in peer-reviewed journals or testimony of other psychologists upon which to base their decision. Some jurisdictions also required the expert to have certain credentials such as certification, for example chartered status in the British Psychological Society or in the Spanish Psychological Society, an academic appointment in Greece, or state licensure in the US. On the other hand, there are others who believe that psychological testimony is not scientifically sound and should not be permitted in the courts at all. In the early 1990s there was a debate on the admissibility of psychological assessment data in the courts, published in the *American Psychologist* as well as in *Science*, which presented both sides of the argument. Thus, although admissibility of experts has been based on published US case decisions, in fact the forensic world often looks to them for guidance and trends as a behavioral technology.

Other Forensic Psychology Areas

There are a large number of areas where psychologists can practice forensic psychology in addition to being 'expert witnesses' in trials and that list continues to grow. The following sections briefly describe the main roles and functions.

Behavioral Trial Consultants

This broader area is where the psychologist, using psychological knowledge of human behavior, helps attorneys prepare their trial strategies in addition to selecting jurors. This includes consultation about the persuasiveness of the evidence – both the fact pattern as well as the way it is presented. Community attitudes towards certain types of behavior may be researched by systematically gathering information using focus groups, telephone surveys, or even door-to-door and community observations. Everything from the global attitudes about the specific legal issues raised by the case to how a particular type of dress including the color of the clothes worn by witnesses and attorneys may be covered in these strategy sessions. Orders of presentation of witnesses, organization of material to be

presented, creation of demonstrative evidence including charts and pictures, and types of food to serve the jury, all are possible consultation topics.

Consultation with Judges in Cases Involving Access to Children

Another area of consultation for psychologists is in helping judges arrive at the difficult decisions they must make by providing both empirical and clinical psychological data relevant to the law the judges must follow. Assessment of children has historically been an area in which psychologists have practiced. Psychologists have applied this knowledge base to assist the court in making decisions about who gets access to the children who come before them. One popular example is in child custody and visitation decisions and access to children who are involved in the juvenile justice system. Here psychologists are more likely to use clinical judgment that might be based originally on research data, primarily because there is little longitudinal data about the impact of access to one or both parents on the development of children.

Interestingly, there are some data concerning exposure to abusive parents on subsequent delinquency and use of violence, which is consistently ignored by the courts even when psychologists attempt to present it, such as is the case with battered women whose children are exposed to violent fathers. Rather, confirmation of one's particular beliefs about what really is 'in the best interests of the child', which is supposed to be the legal standard, often gets confused with the 'interests of the father' or the 'interests of the mother' while not taking the issue of domestic violence seriously. In some cases, abusive fathers have been given unsupervised access to their children, because the state had a more compelling interest in their ability to provide financial support than in the child's other psychological needs. Educating professionals about the dangers of violence in the family is a fertile ground for psychologists with expertise in this area around the world (Walker, 1999).

Rehabilitation Programs for Victims and Perpetrators of Crimes of Abuse

Psychologists have become critical partners in areas of the law where rehabilitation is a more appropriate goal. In domestic violence and rape cases, for example, the policy around the world has been to provide groups for women victims to help them heal from any trauma that occurred as a result of the assault. Psychologists consult

with or actually conduct many of these groups, with clients referred by the legal system. In many countries, perpetrators of these crimes are given the opportunity to attend group therapy to help them stop their violent behavior, whether in prison, such as the sexual offender's treatment programs, or while on probation, such as batterer's treatment programs. Again, psychologists provide actual treatment or consultation in the development of these programs with the referrals coming from the criminal justice system (Walker, 1994).

Amicus Curiae Briefs and Other Forms of Written Testimony

Sometimes it is not appropriate to give expert witness testimony in the court but rather, provide the judge with important information that may assist in resolving the legal issues in a case either at the trial or appellate levels. This procedure is known as 'Amicus Curiae'. In some countries, the only form of expert testimony is the report submitted by the psychologist. Here cross-examination is not possible. In appellate cases cross-examination of the expert is of less importance than at the trial level itself. Psychologists may be asked to write amicus briefs in support of an appellate issue on which psychological research can provide important information to assist the court in making decisions.

In some cases, the interest has to do with professional matters while in other cases it is more likely to use psychological knowledge to help promote the public interest. For example, psychological research demonstrates that discrimination against people because of the color of their skin, their culture, their sexual orientation, or their gender can have long-lasting psychological impact. Other areas in which psychologists have written briefs include forced psychotropic medication, permitting consenting adults to practice sex with each other without government interference, unfairness of the implementation of death penalty laws, proper assessment techniques by practitioners in cases such as use of anatomically-explicit dolls and closed-circuit television on children's testimony, cognitive capacities of children to give reliable and valid testimony, and consent to medical procedures such as abortion, desegregation of public schools, impact of sexual harassment in the workplace on women, psychological legitimacy of the battered woman syndrome, and issues concerning insanity and diagnosis of mental disorders. A more complete list of cases is available from the APA, Legal Affairs Office (<http://www.apa.org/>).

Training for Judges, Attorneys and Others in the Legal Profession Including Police Psychology

Judges in most countries are required to spend some time in training seminars designed to help them to deal with the many different types of cases brought before them. Psychologists may be hired to present information that is useful and helpful to the judges whether it is personal or professional. The same is true for other members of the legal profession including lawyers of the various bar associations. Although the topic area might change from time to time, psychologists are often quite comfortable in providing consultation on cases or in other areas of their expertise. Often this leads to requests to develop more formal training workshops. New training programs in psychology departments are teaching students to develop specialty areas and the APA, the Canadian Psychological Association (CPA) and SPA, for instance, are encouraging practitioners to develop a specialty niche where they can develop a reputation for their expertise rather than the old general model (<http://www.apa.div42.org/>).

A new and fertile area for psychologists to practice is with law enforcement officers in the criminal justice field. Police psychology is a specialized branch of psychology that applies psychological principles to working with police who are clearly in a dangerous and high stress position. Psychologists have researched the impact of a stressful occupation such as police work. There are many different ways to help police deal with issues internal to their department as well as internal to themselves, including teaching stress-reduction techniques. It is also helpful to assist the police department in selecting officers who will be as highly effective as possible and will remain on duty, considering the high level of training necessary before they become good officers.

Attorneys and others may also call upon the psychologist to consult with them so that they are better educated in a particular area of expertise for the psychologist or perhaps, in general. Often the attorneys as well as the client are both clients of the forensic psychologist. This makes it important to separate forensic and clinical work so that there is no appearance of or danger of bias towards one or the other.

Assessment of Psychological Injury for Damages

Another important area for clinical forensic psychologists is to assess the psychological or neuropsychological injuries that someone might have from an accident or other form of trauma.

Shapiro (1999) has provided a good basic introduction to using standardized psychological tests to conduct forensic psychological evaluations. Others have concentrated in the criminal arena although their suggestions can be applied to civil matters.

Battered women syndrome, rape trauma syndrome, and personal injury torts require a specialized evaluation and a written report or perhaps live testimony from an expert. While it is common in North America for psychologists to give expert witness testimony in deposition or at trial, in other countries, an expert can submit a written report to the court to demonstrate that a person has suffered and the injuries are outlined to assist the court in attempting to obtain financial restitution for the person concerned.

Competency and duress are two other issues important in the civil courts for psychologists. When someone enters into a contract, such as a financial agreement prior to marriage (prenuptial agreement) it is important for it to occur without any coercion or duress. However, sometimes people are coerced into signing such contracts and then attempt to break the agreement. This most often occurs during business disputes or a divorce action. A psychological evaluation that includes a clinical interview and some other psychological assessment may assist in determining whether or not someone was so frightened that she or he signed documents without understanding their meaning. Or, in some cases, it is possible to determine the competency of someone who has knowingly signed documents, for example after a head injury or during a particular point in the debilitating process of dementia.

Assessment of Criminal Responsibility

Psychologists have provided psychological data to help solve criminal cases. Most countries provide for mental illness exceptions (incompetence and insanity) to their criminal laws and hold the person less responsible for their criminal acts if psychological reasons can be demonstrated. Important issues arise for the forensic practitioners that are less important for the psychotherapist, particularly in assessing for the reliability and validity of the information gained in the evaluation.

Therefore, the psychological issues raised by the detection of malingering and deception become important here (Shapiro, 1999). It is often difficult for psychologists to meet the requirement to assess for legally defined conditions such as 'competency' and 'insanity' rather than just assess for mental illness. Competency is defined by statute or case law and, therefore, it takes more than just a clinical

finding of mental illness to meet the requirements and forensic psychologists must follow the law. Insanity is even more problematic as it is a legal construct without any firm definition (Melton, Petrila, Poythress, & Slobogin, 1997). Insanity is a rarely used defense, but when it is used, psychologists, just like psychiatrists, often play an important role in the assessment and expert witness testimony via written report or live testimony.

Further information concerning new trends in forensic psychology may be found online at: <http://www-personal.umich.edu/~degues/project4.html> (guide to forensic psychology), <http://flash.lakeheadu.ca/~pals/forensics/links.htm> (forensic psychology resources), <http://www.ozemail.com.au/~dwillsh/> (forensic psychology resources links), and <http://www-psicologia.psibo.unibo.it/jure.htm> (forensic and law psychology), and the Domestic Violence Institute, with world-wide affiliate centers for training, research, and policy in this area: <http://www.dviworld.org>.

26.5 ENVIRONMENTAL PSYCHOLOGY: AS LARGE AS LIFE

The environment includes everything that surrounds people, and environmental psychology considers it in specifically socio-physical terms. Thus, the subject involves analyzing behavior wherever it occurs: in rooms, buildings, offices, hospitals, classrooms, streets, elevators, means of transport, parks, natural spaces, or any other places which people occupy. Environmental psychology studies something, which, in most cases, people are unable to define, despite the fact that they know where they are, are able to describe it, and move about within the place. It may be said that the environment affects, and is at the same time affected by, behavior, but that its influence is not recognized. In brief, environmental psychology can be defined as the field that studies the reciprocal relationships between people's behavior and the socio-physical environment, whether it is natural or built.

One aspect that distinguishes environmental psychology can be found in Darley and Gilbert (1985) where it is regarded not as a sub-discipline of psychology, as is the case with social psychology, but as a grouping of various areas of research with a high degree of cohesion. Nevertheless, the relationship between social and environmental psychology is a very close one, since the latter emphasizes psycho-social processes, particularly in communication, and frequently refers to intervening variables such

as attitude to explain relationships between environment and behavior.

Some of the significant general characteristics, which distinguish environmental psychology, are as follows (Darley & Gilbert, 1985; Stokols, 1995):

1. It studies the relationships between behavior and environment where the latter is considered from a holistic perspective; that is to say, as people experience it in their daily lives, and thus more attention is paid to the relationship between the elements as units of analysis than to their components.
2. It takes into account the numerous possible relationships between environment and behavior; that is to say, how environment influences behavior and how behavior produces changes in an environment.
3. Having begun with what was clearly an applied orientation, its evolution has generated concepts and relationships between them have led environmental psychology to develop, somehow, as a basic discipline. However, within the subject, a dialectic tension can be detected between the scientific and the technological perspective, although this is always driven more by practice than theory.
4. There are many disciplines that are interested in the relationships between the individual and the environment, which means that environmental psychology is part of a multi-disciplinary and multi-faceted field. Consequently, numerous concepts and laws are adopted from other disciplines such as geography, biology, architecture, town planning, etc.
5. The underlying objectives of most developments and studies relate to improving quality of life and the environment.

An adequate starting point would be to take the two terms, environment and behavior, to describe the field. We may refer to three classic domains in what concerns the environment: (a) the natural environment, which is untouched by people, or where there is hardly any human impact; (b) the built environment, which mainly covers fields relating to architecture, interior design, and town planning; and (c) the social environment, which refers to physical space in order to define situations of interaction. Three different fields can be distinguished around human behavior: (a) individual processes (perception, cognition and emotion); (b) social processes relating to inter-personal relationships (personal space, territorialism, overcrowding, etc.); and (c) societal processes such as urban life, residential matters, resource management, etc.

Evolution and Thematic Development of Environmental Psychology

By consensus, 1960 is the year in which this new field was shaped. Three periods will be considered to provide a temporal framework facilitating the understanding of the process whereby environmental psychology developed.

Pre-History of Environmental Psychology (before 1960)

Experimental psychology was still in a premature phase at the end of the nineteenth century, but leading authors such as Fechner and Wundt underlined the importance of physical stimuli in studies of perception. Similarly in sociology, during the same period, there were references to the lamentable conditions in which the poor were living in London. Subsequently, studies on urban life in Chicago by the School of Human Ecology showed the importance of socio-physical variables in explaining aspects relating to residential quality. The influences of physical factors such as climate, temperature, height, or landscape on several aspects of behavior are classic references, which were approached in the pioneering work of W. Hellpach in Germany during the 1910s.

The development of the Gestalt School constituted a qualitative leap by taking into consideration a holistic concept to explain behavior. Two of its indirect followers, Egon Brunswik and Kurt Lewin, played a decisive role in the development of this field. Brunswik coined the term environmental psychology in 1943 and, with his 'Brunswik lens' model, emphasized the active role of individuals in structuring perception of the environment. Lewin stressed the role of the internal representation that people have of the environment in order to move around the 'vital space'. Moreover, his influence on Barker makes him worthy to be considered a primary figure when seeking to establish the origins of environmental psychology.

One classic study, which is famous within the world of psychology, was that carried out in the 1930s at the Hawthorne Works of Western Electric in Chicago. This study looked into the effects of light and other aspects of environmental design on human behavior. Although the results are primarily of interest to work and organizational psychologists, subsequent studies have again shown the interest of social sciences in matters relating to environmental design. For example, in the United Kingdom, studies were carried out, during the post World War II reconstruction period where, by means of questionnaires, they succeeded in influencing the legal

norms on how dwellings should be constructed in order to exploit natural light better.

The late 1940s and the 1950s saw the emergence of a number of researchers who established the framework from which environmental psychology developed. In 1947, Barker and Wright founded the Midwest Psychological Field Station, which was to yield ecological psychology, another nickname for environmental psychology. During the same period, Tolman's work on cognitive maps gave rise to further developments, present in the work of the town planner, Kevin Lynch. H. Osmond studied how the layout of furniture can facilitate or impede interaction between subjects sharing a dwelling. Around the same time, E. T. Hall published his book *The Salient Language*, describing how space is used in different cultures and R. Sommer conceived his studies on 'personal space'. In Europe, Terence Lee presented his doctoral dissertation on the Study of the Urban Neighborhood at Cambridge University. These studies are at the crossroads of what is or is not environmental psychology, since they are the precedents leading to the strengthening of the field in the following decade.

The Period of Institutionalization (1960–1980)

During this period, environmental psychology was consolidated and regarded as an advanced discipline in its own right within the realm of psychology. A series of events in society occurred, particularly in the US, and in social sciences as a whole, which favored the development of environmental psychology. Thus, the awareness amongst numerous social groups of prevailing social problems led to the promotion of country life as opposed to urban life. On the other hand, the 'crisis of relevance' in social psychology encouraged research outside the laboratory and led to the development of field study researches, where naturalistic and interdisciplinary methods came to the fore.

Amongst the main milestones reached in the US during the 1960s it is convenient to highlight the following: (a) the first Utah conference in 1961 on 'Architectural Psychology and Psychiatry. A National Exploratory Research Conference'; (b) the publication of a monographic issue of the *Journal of Social Issues* edited by Kates and Wohlwill; (c) the first meeting of the Environmental Design Research Association (EDRA) which was held in 1968 in North Carolina; (d) the first scientific journal on the subject which appeared in 1969, under the title *Environment and Behavior*; (e) the first book edited in 1970 by Proshansky, Ittelson and Rivlin on

Environmental Psychology: Man and his Physical Setting. In the UK in 1963, the British Psychological Society sponsored various symposia on the subject. At this stage, it was more a matter of a psychology of the building environment or of architecture – as it was called at that time – than of an environmental psychology as it is called now.

A landmark study of this period was that which followed the failure of the Pruitt-Igoe development in St. Louis, Missouri (USA). Rainwater published the main findings in 1966 as did Yancey in a controversial article presented to the American Psychological Association (APA) in 1971. Pruitt-Igoe, a large public housing project consisting of 43 buildings, each 11 stories high, was constructed between 1955 and 1956. The development was designed to house around 2,500 families who were living in very poor conditions in three-story blocks downtown. The architecture of the development was awarded a prize for public housing design, but, paradoxically, soon afterwards, the development was declared uninhabitable and it had to be demolished. The problem was not related to defects in its construction, but to the behavior that the inhabitants began to display. The degree of vandalism committed by the residents themselves was the reason for its demolition. Studies designed to investigate the reasons for this failure showed that the cause of such vandalism stemmed from the lack of social control over the space promoted by the very design of the building. The required level of social control had, however, been present in their previous dwellings. By the way, behavioral and motivational aspects behind vandalic actions have been studied in depth (Levy-Leboyer, 1984).

Based on this work, many studies showed that a great deal of the fear of crime experienced by public housing residents can be directly attributed to architectural design. In contrast, the old ghettos and slum districts, which seem to grow in a haphazard way, without any sanitary standards or minimal degree of comfort, seem, by virtue of their spatial layout, to offer an area where a tightly woven social network develops, providing a degree of security to the inhabitants. The social cohesion that characterizes such urban and architectural developments leads to a greater sense of social control. Many studies have shown that feelings of fear and danger experienced by public housing residents are inversely proportional to the existence of a wide social network in the neighborhood.

According to Sommer (1997), it was in 1973 that the term environmental psychology was consolidated and embraced other terms such as architectural psychology, man–environment relationships, and ecological psychology. In the

mid-1970s, Division 34 of the APA was created under the title of 'Population and Environmental Psychology'. In the United Kingdom, post-graduate courses on the subject were launched at the University of Surrey in 1973.

The Period of Advancement and Development (from 1980 to 2000)

The 1980s and 1990s have seen great progress in environmental psychology. Periodic reviews appear approximately every four years in the *Annual Review of Psychology*, chronicling the most important findings within the field.

In the 1980s there were three key moments. The *Journal of Environmental Psychology* was published in the UK, in 1981, which, together with *Environment and Behavior*, were to become the two most important means of dissemination for research. Other significant landmarks were the publication of the series *Human Behavior and Environment: Advances in Theory and Research* and, later, in 1987, of another series entitled *Advances in Environment, Behavior, and Design Psychology*. The third important event was the appearance of the *Handbook of Environmental Psychology* edited by Stokols and Altman (1987).

From that point on, environmental psychology may be regarded as a consolidated field, an academic and research subject in many of the world's universities, and one which has means of expression which are more or less agreed on by those who practice it.

At the end of the twentieth century, 'green' issues and ecology have been the topics receiving most attention (Pol, 1993). The middle classes in Western society now share the concerns of those social movements that were present when environmental psychology emerged and this has quite possibly influenced the new direction taken in this field. Psycho-environmental research concentrates on investigating values and attitudes towards the environment and its relationship with pro-environmental behavior. The so-called 'new environmental paradigm' reflects an alternative set of beliefs and values associated with conservation and the environment. One of the most frequently obtained results concerns the fact that the high scores obtained amongst the population for environmental concern do not correspond to recycling or energy-saving behavior. Some explanation for this discrepancy would seem to lie in the existence of different dimensions in understanding environmental values: on the one hand, are egotistical or anthropocentric tendencies, and, on the other, are ecocentric orientations. Both place great value on the environment, but for different motives: whilst the former value the environment because of its

contribution to human well-being and the satisfaction of human needs, the latter value it for its transcendental dimension rather than its utilitarian worth.

Further information concerning new trends in environmental psychology may be found online at: <http://www.psy.gu.se/iaap/envpsych.htm> (IAAP, Division 2, Environmental Psychology), <http://luna.cas.usf.edu/~miles/envpsych.htm> (environmental psychology links), and <http://www.sosig.ac.uk/roads/subject-listing/UK/envpsych.html> (environmental psychology links).

Theoretical Approaches

It may be said that, given the characteristics of environmental psychology, there are multiple theoretical and methodological approaches to the subject, which impede integrated discourse on the large quantity of results obtained. Altman and Rogoff (1987) outlined the different perspectives. They highlight four different perspectives which they term 'World Views in Psychology' to explain each of the different ways of understanding the relationship between the environment and the individual.

The first perspective is called the 'Trait World View'. The focus is on studies bringing out psychological processes, cognitive characteristics, and personality qualities, where situational aspects have little significance. Predictions are made on the basis of psychological processes, and thus this would include all those studies focused on the person as the basic unit of analysis.

The second perspective is called the 'Interactional World View', and this is the approach most commonly used by the end of the twentieth century. It takes into account the relationships amongst three different interrelated fields: psychological processes, environmental frameworks, and contextual factors. This is the perspective most frequently adopted in psycho-environmental research. These range from studies of cognition or emotion relating to the environment (cognitive maps, attitudes, stress, etc.), via theories such as reactance, learned helplessness, or mere mechanisms for regulating personal space, to learning theories themselves.

The third perspective is the 'Organismic World View'. In this case, the focus of psychological studies are on the dynamic and holistic systems in which personal and environmental components exhibit complex, reciprocal relationships as well as influences. This view may be regarded as attempting to stay closer to the objectives of environmental psychology, in its holistic approach and in its analysis of the reciprocal relationships between the two elements of the

headline, but taking into account the fact that this 'view' is of a systemic nature, where the individual and the environment are composed of related elements. The work of Moos on institutional environments was noticed as a prototype in this perspective.

Finally, there is the 'Transactional World View'. This approach emphasizes studies focused on the changing relations among psychological and environmental aspects of holistic unities. The unit of psychological analysis is holistic entities. That is, it deals with persons, psychological processes, and environments involved. The transactional whole is not fragmented in separate elements; it appears in the confluence of mutually embedded factors that depend on one another. There is a correspondence by definition and meaning. This approach would be the most appropriate for studying the behavior-environment relationship from a holistic perspective, but few studies follow these marks. Although many psychologists consider it as having high potential, the majority of them make generalized theoretical comments but with little empirical research. Examples of research which does exemplify this approach are the anthropological studies carried out by Rapoport (1977) and the ecological psychology developed by Barker.

While it may be the case that the range of perspectives described above offers the possibility of situating most studies in environmental psychology, it is also true that there have been other efforts along the same lines, such as the work of Saegert and Winkel (1990). These authors differentiate three different ways of studying behavior-environment relationships: (a) the adaptation paradigm, which covers stressors, perception, cognition, and environmental emotion; all of this based on the fact that 'the goal of biological and psychological survival motivates behavior' (p. 446); (b) the environment as opportunity structure for goal-directed action. In this case it is a question of studying 'the relationship between the behavioral requirements of the active and goal-directed person and the qualities of the environment' (p. 452); (c) 'sociocultural paradigms', which include all those studies that emphasize 'the person as a social agent rather than an autonomous individual having needs for survival or desires to carry out personal projects' (p. 457). The important thing is to study environmental problems by considering the individual as a member of a social structure.

More recently, Sundstrom, Bell, Busby, and Asmus (1996), have made another attempt to classify the different theories or approaches, which have been used in studies to date. In addition to recording how new approaches are being

incorporated into environmental psychology, these authors also recognize that environmental psychologists are a long way from reaching a theoretical consensus, and that there are a variety of approaches. In their judgement there are six notably influential approaches: arousal, environmental load, stress and adaptation, privacy-regulation, ecological psychology and behavior setting theory, and transactional approach.

These various ways of approaching the subjects investigated by environmental psychologists demonstrate, at least at the present time, the difficulty of finding a single approach, which can be adopted by the majority. The selection of one approach or another, and thus of one methodology or another, will depend on the underlying concept of person, the environment being studied, and how the relationship between the two is understood.

Research Methods and Techniques

Environmental psychology shares the methodological framework of psychology as a science and as a technology. However, there are certain factors that characterize psycho-environmental research and differentiate it from other areas:

1. Environmental psychology studies environment-behavior relationships as global unities, and thus the fragmented study, in isolation, of 'stimulus-response', so frequently used in other areas of psychology, here proves very inappropriate.
2. Environmental psychology research mainly takes place in the natural context, in the environment where the behavior is displayed.
3. It has a more applied and technological focus than other areas of psychology, considering that the object of study in environmental psychology is not exclusive to the field, but that other subjects have played an active part in its development. This has favored a pluri-methodological panorama, which serves to increase the complexity when seeking methodological unity.

The three methods most frequently used in environmental psychology are laboratory, field, and correlational studies. The first method includes studies relating to personal space (crowding, personal distance) and the impact of physical environment on behavior (e.g., effects of noise or temperature on performance, aggression, etc.). In field studies, the laboratory is replaced by the natural environment, particularly in the area of responsible ecological behavior, where studies often assess the efficacy of programs

designed to increase such ecological behavior (use of public transport, energy-saving, recycling, etc.) in public places (streets, cafeterias, communities) or in the home. Finally, correlational studies usually relate environmental variables (physical resources, geographical factors, designs of environments, etc.) with socio-demographic variables or individual differences (fear of crime, perception or evaluation of environments, evaluation of energy consumption, etc.). Similarly, this method is also used in trans-cultural psycho-environmental studies and in those concerning environmental risk perception.

With regard to research techniques, recent handbooks classify those used in environmental psychology into two broad groups: auto-reporting (questionnaires, interviews, scales) and observational techniques. Observational techniques fall into three types, depending on whether the research is focused on the physical environment (scene of behavior), the behavior of the subject (prototypical behavior), or both (behavior map).

The evaluation of occupied environments, or Post-Occupancy Evaluation (POE) is a sound example of the methodological application of psycho-environmental research. The objective of evaluations of this type is to ascertain the extent to which the design of a building effectively fulfills the purposes for which it was first designed. The process by which a POE is carried out involves the following steps: (a) analysis and interpretation of the affective and cognitive judgements and the behaviors of the people who interact with the building to be evaluated; (b) comparison of this data with the objectives for which the building was constructed, thereby establishing the criteria for the appropriateness of the building to the needs of its users; (c) establishment of the characteristics of the building and its main problems, thereby allowing future results to be predicted in similar buildings and neighborhoods; and (d) introduction of the necessary correctives.

The *walkthrough* is the technique most frequently employed in this kind of evaluation. It is an unstructured interview that uses the physical environment as an incitement to help the subjects articulate their reactions to the milieu. A tour of the building to be evaluated is arranged, in which a number of people interested in or affected by the building take part: architects, designers, the building managers, users, etc. In addition, the group is asked to gather all available information concerning the building. Subsequently, the participants attend an initial meeting to explain the reasons for the walkthrough; thereafter, they proceed to walk through the building. During this walkthrough, a series

of open questions are posed to the participants; their responses are recorded on previously coded papers. Finally, there is a review session, in which the various stakeholders make certain recommendations, until agreement is reached on what specific actions are required with regard to the building.

This method helps to show the importance of the users' opinions, as well as facilitating a degree of accord between the various parties, but it has the disadvantage that it is very difficult to make comparisons between different places and times. In this sense, the POE is a type of ad hoc evaluation, carried out in a particular space and at a particular time, and it seeks to obtain very specific results about the setting evaluated. This is one of the main criticisms made of POE, although the accumulation of results obtained from multiple POEs may serve as a guide for future developments. Thus, the POE becomes a type of evaluation, which can be used not only for diagnostic, but also for prognostic purposes. Thus, a situation is reached where the POE does not merely provide an evaluation of a particular occupied environment, but constitutes genuine research, which can be applied to help maximize the available resources in designing a building.

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A modified and expanded version of the two sections devoted to the historical perspective and the areas of research in forensic and law psychology are available in Sabourin and Walker (1999).

NOTE

1. We have included several references to WWW homepages that, in some cases, may require an automatic translation engine such as that available at <http://www.alis.com/>.

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