The Stream of Consciousness

Scientific Investigations into the Flow of Human Experience

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Plenum Press · New York and London

Library of Congress Cataloging in Publication Data

Main entry under title:

The Stream of consciousness.

(Emotions, personality, and psychotherapy)
Includes bibliographies and index.
1. Consciousness. I. Pope, Kenneth S. II. Singer, Jerome L. [DNLM: 1. Consciousness. BF311 S914]
BF311.S693 153 78-2003
ISBN 0-306-31117-8

A Division of Plenum Publishing Corporation
227 West 17th Street, New York, N.Y. 10011

Printed in the United States of America

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Introduction: The Flow of Human Experience

Kenneth S. Pope and Jerome L. Singer

The stream of consciousness—that flow of perceptions, purposeful thoughts, fragmentary images, distant recollections, bodily sensations, emotions, plans, wishes, and impossible fantasies—is our experience of life, our own personal life, from its beginning to its end. As scientists, we may approach the subject for the joy of discovering how it works. As clinicians, therapists, and social engineers, we may study it in order to reduce human suffering. But simply as people, we are drawn to it precisely because it is that portion of our being at once most familiar and most mysterious.

How disappointing, then, to search so much of the pyschological literature and find reflected there so little of our day-to-day human experience. How surprising—at least to anyone but a psychologist—that textbooks on thinking (Bourne, Ekstrand, and Duminowski, 1971; Johnson, 1955) can ignore or say little about the stream of consciousness and imagination, that books on personality (Mischel, 1971) or on adolescence (Seidman, 1960) can remain so silent about imagination and fantasy. The recent reawakening of interest in the flow of awareness follows a sleep of nearly half a century. As Roger Brown (1958) put it: "In 1913 John Watson mercifully closed the bloodshot inner eye of American psychology. With great relief the profession trained its exteroceptors on the laboratory animal" (p. 93). Even today, serious exploration of the stream of consciousness involves not only an avoidance of both the self-indulgent mush of uncritical armchair introspection and the self-important trivia of thoughtless laboratory artifice, but also readiness to endure a critical thwack from the most

influential psychologist of the century for our "diverting preoccupation with a supposed or real inner life . . ." (Skinner, 1975, p. 46).

While the psychologist stumbled, stuttered, then froze into a paralyzed silence, the artist responded with graceful enthusiasm to the challenge William James 1890/1950 set forth in his chapter "The Stream of Thought." In producing what Edmund Wilson (1922) called "perhaps the most faithful X-ray ever taken of the ordinary human consciousness," James Joyce allowed us to experience the sluggish, mundane, somehow heroic movement of awareness that was Leopold Bloom and the earthy, poignant, willful consciousness of Molly. In the following passage, Molly's consciousness fills mostly with memories of her husband:

> who was the first person in the universe before there was anybody that made it all who ah they dont know that they dont know neither do I so there you are they might as well try to stop the sun from rising tomorrow the sun shines for you he said the day we were lying among the rhododendrons on Howth head in the grey tweed suit and his straw hat the day I got him to propose to me yes first I gave him the bit of seedcake out of my mouth and it was leapyear like now yes 16 years ago my God after that long kiss I nearly lost my breath yes he said I was a flower of the mountain yes so we are flowers all a womans body yes that was one true thing he said in his life and the sun shines for you today yes that was why I liked him because I saw he understood or felt what a woman is and I knew I could always get round him and I gave him all the pleasure I could leading him on till he asked me to say yes . . .I was thinking of so many things he didnt know of Mulvey and Mr Stanhope and Hester and father and old Captain Groves and the sailors playing all birds fly . . . and how he kissed me under the Moorish wall and I thought as well as well him as another and then I asked him with my eyes to ask again yes and then asked me would I say yes to say yes my mountain flower and first I put my arms around him yes and drew him down to me so he could feel my breasts all perfume yes and his heart was going like mad and yes I said yes I will Yes. (Joyce, 1914/1961, pp. 782-783)

Not only in her novels, but also in her critical writings, Virginia Woolf reflected the seriousness with which writers responded to James's insights.

> Examine for a moment an ordinary mind on an ordinary day. The mind receives a myriad impressions—trivial, fantastic, evanescent, or engraved with the sharpness of steel. From all sides they come, an incessant shower of innumerable atoms; and as they fall, as they shape themselves into the life of Monday or Tuesday, the accent falls differently from of old . . . . Life is not a series of gig lamps symmetrically arranged; life is a luminous halo, a semi-transparent envelope surrounding us from the beginning of consciousness to the end . . . . Let us record the atoms as they fall upon the mind in the order in which they fall, let us trace the pattern, however disconnected and incoherent in appearance, which each sight or incident scores upon the consciousness. (Woolf, 1925/1953, pp. 154-155)

While James Joyce, Virginia Woolf, and T. S. Eliot (1950) in his 1919 discussion of the "objective correlative" were seeking ways to convey the stream of consciousness in words, filmmakers like Sergei Eisenstein (1942) discovered moving pictures to be especially well-suited to the flow of experience. Eisenstein developed the "montage" and the "partial representation" to evoke from the viewer the same flow of consciousness occurring in the mind of the artist or one of the film's characters. This effort among artists to represent the stream of consciousness extends into modern works of poetry, fiction, and the visual arts, and—happily—provides us with a touchstone for our own experience with grace, perceptiveness, and humor (Pope and Singer, 1978a).

Only in the last decade or so has consciousness emerged as a legitimate subject for psychological research and discussion. Even thus legitimized, consciousness rarely appears in the scientific literature as that flow of experience so familiar to us all. As researchers, we overlook all too often the possible creative forms that rigorous scientific methodology can assume and instead we limit ourselves to experiments that are easy to set up and control, generally focusing on outcome products of specific directed thinking tasks or on the study of isolated features of thought (e.g., the time it takes to rotate mentally a geometric form; the effectiveness of imagery in paired-associate learning; comparing the size of real or imagined wooden balls). The emergent picture of thought process, therefore, often possesses a quality of organization and rationality that is hard to reconcile with the nature of ongoing thought as it is presented by artists or with our own stream of consciousness if we take the trouble to observe it in its natural course (Pope and Singer, 1978b).

The contributions in this volume represent efforts to study the stream of consciousness with a deep appreciation and respect for its rich diversity, its continuous, often quirky movement, its immediacy in the lives of us all, and ultimately its mystery. We begin with an examination of what various people or groups have meant or mean when they use(d) the term "consciousness," of how they treat it, and to what effects. The chapter by Strange calls our attention to the different meanings of "consciousness' when used by such voices as James, Skinner, Freud, Jung, Sartre, Husserl, Tolman, or Tart. He presents and discusses the evolution of the concept of consciousness within the mainstream of American and other Western views. Of particularly formative influence has been American cognitive psychology (William James, Titchner, the functionalists, and the more recent exponents), the behaviorists (Watson, Tolman, Skinner), and the imported movements (psychoanalysis, phenomenological psychology, and transpersonal approaches).

Taylor's discussion of major Asian psychologies makes vividly clear and explicit their differences not only from the Western psychologies discussed by Strange, but also among themselves in terms of conceptualization and study of the stream of consciousness—differences that are often glossed over or ignored in most popular presentations of "Eastern versus Western" approaches. He presents detailed examination of the treatment of the stream of consciousness by the Taoist psychology of China, the Zen psychology of Japan, the Hindu psychology of India, and the psychology of Indian Buddhism.

Battista moves our focus from formal psychologies to the adjacent sciences—physical, biological, neurophysiological—and their relevance to the study of consciousness. His presentation of the contributions of Magoun, Penfield, Hubel and Wiesel, Olds and Milner, Einstein, Heisenberg, and Wigner lays the groundwork for his discussion of criteria for the development of a scientific theory of consciousness that can accomodate phenomenological, psychological, and empirical data.

In the next three chapters, each author sets forth a carefully articulated conceptualization of the stream of consciousness. The ideas presented are informed by the research of the author as well as others, are comprehensive in scope as well as specific in detail, and—of great importance—are capable of experimental validation or disconfirmation.

Rychlak picks up Battista's discussion of the criteria for a scientific theory of consciousness and moves toward an understanding of the stream of consciousness within a "rigorous humanistic psychology." He emphasizes the active, conceptualizing, telic nature of the stream of consciousness.

Shallice grounds his presentation in the recent, almost startling advances of current cognitive psychology. His information-processing framework stresses the organizing nature of conscious experience, its control function, and particularly its limited capacity.

Bakan presents compelling evidence suggesting two qualitatively different streams of consciousness. One stream is associated with left hemispheric brain function (which has been described by various researchers as symbolic, abstract, linear, rational, focal, conceptual, propositional, secondary process, digital, logical, active, and analytic), the other with the workings of the right hemisphere (described as iconic, concrete, diffuse, perceptual, appositional, primary process, analogue, passive, and holistic). Bakan examines how bias in hemispheric functioning contributes to individual differences in conscious experience.

The contributors of the next section set forth the most current

research into the stream of consciousness. Singer focuses on the scientific investigation of daydreams, fantasy, and ongoing imaginative processes—those creative aspects of the stream of consciousness that allow us to do more than sit preoccupied with (or imprisoned in) the present sensory environment or carry out simply plodding, computerlike syllogistic reasoning.

Klinger presents and discusses the various methods currently available for studying the flow of thought. He describes in detail the results of research he and his colleagues have performed regarding important dimensions in the stream of consciousness, and the combinations of motivational and stimulus factors that govern changes in the content of thought from one moment to the next.

Pope presents a series of three studies exploring the influence of posture, solitude, and gender upon normal ongoing thought. These studies suggest that the stream of consciousness seems predominantly oriented toward long-term memory or future fantasy, but physical movement or presence of others lead to greater discontinuity and also more focusing upon the present situation.

Starker discusses three studies of night dreams and waking fantasies. He finds striking stylistic consistencies in the "structure" of fantasy, rather than the "content," that transcend the individual's state of arousal.

Kirpke and Sonnenschein investigate the biological rhythm in waking fantasy. They report two experiments, one in a rigidly controlled laboratory and the other in a normal social environment, that demonstrate cyclicality in both waking mental functions and their physiological correlates. The authors discuss possible endogenous biological origins for these approximately 90-minute fantasy cycles.

In the concluding chapter, Csikszentmihalyi draws on a wide body of research, including his own, to set forth a broad holistic conceptualization of the flow of experience with special emphasis on the economy of attention. He views the stream of consciousness in its relationship to the development of both individual human beings and social systems.

References

Bourne, L. E., Ekstrand, B. R., and Duminowski, R. L. *The psychology of thinking*. Englewood Cliffs, N.J.: Prentice-Hall, 1971.

Brown, R. W. *Words and things*. Glencoe, Ill.: The Free Press, 1958.

Eisenstein, S. *The film sense*. New York: Harcourt, Brace, 1942.

Eliot, T. S. Hamlet and his problems. In *Selected essays*. New York: Harcourt, Brace, 1950.

James, W. *The principles of psychology*. New York: Dover, 1890/1950.
Johnson, D. M. *The psychology of thought and judgment*. New York: Harper, 1955.
Joyce, J. *Ulysses*. New York: Random House, 1914/1961.
Mischel, W. *Introduction to personality*. New York: Holt, Rinehart, and Winston, 1971.
Pope, K. S., and Singer, J. L. Regulation of the stream of consciousness: Toward a theory of ongoing thought. In G. E. Schwartz and D. Shapiro (Eds.) *Consciousness and self-regulation: Advances in research*. Vol. 2. New York: Plenum Press, 1978a.
Pope, K. S., and Singer, J. L. The waking stream of consciousness. In J. M. Davidson, R. J. Davidson, and G. E. Schwartz (Eds.) *Human consciousness and its transformations: A psychobiological perspective*. New York: Plenum Press, 1978b.
Seidman, J. M. *The adolescent, a book of readings, revised*. New York: Holt, Rinehart, and Winston, 1960.
Skinner, B. F. The steep and thorny way to a science of behavior. *American Psychologist*, 1975, **30,** 42-49.
Wilson, E. Ulysses. *New Republic*, 1922, **31,** 164.
Woolf, V. Modern fiction. In V. Woolf, *The common reader*. New York: Harcourt, Brace, 1925/1953.