

MIND, BRAIN, AND SOCIETY

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Occasionally I believed I had thoughts of my own – who does not now and then become a victim of such delusions?

Philosopher of science Paul Feyerabend

A man *originates* nothing in his head, he merely observes exterior things, and *combines* them in his head....His mind is merely a machine, that is all – an *automatic* one.

Author Mark Twain

To bridge the worlds of brain and mind, we will replace this isolated mind metaphor with a view that is thoroughly social.

Psychiatrist and neuroscientist Leslie Brothers

THE COURSE

This course deals with the core focus of my current research. Research in the field of mind, brain, and society (social and cultural theory of mind, brain, and consciousness) is reconfiguring our understanding of mentality and emotions. We will read at the intersection of the social, cognitive, and neurological sciences. In particular, we will focus on the intersection of sociology/anthropology and the neurosciences, and the emerging social and cultural theory of mind, brain, thinking, consciousness, and emotions. This is NOT a course in neuroscience, cognitive science, or brain science; it is NOT a course in philosophy or psychology of mind; and it is NOT a biology course. It IS a course in how to think (or how to begin to think) sociologically about mentalities and emotions. The sociology and anthropology of mind and brain is not a mainstream perspective in contemporary intellectual life, and it is in many respects counter-intuitive. The idea that mind and brain are social and cultural phenomena, however, has a history that (in modern terms) begins with nineteenth century social theorists including Karl Marx, Emile Durkheim, and Friedrich Nietzsche. In a later era, the idea was developed theoretically and empirically in the works of John Dewey, George Herbert Mead, Ludwik Fleck, Lev Vygotsky, and Ludwig Goplowicz. More recently, social theorists from C. Wright Mills to Randall Collins and me, Vygotskians like James Wertsch, and evolutionary psychologists such as my STS colleague Linnda Caporael have been working hard to bring the idea of mind and brain as social and cultural phenomena into the core of the intellectual and educated communities.

Beginning in the 1840s, the West entered what I have called The Age of the Social, an era of worldview changes that will carry well into the 21st century and beyond. This “Copernican revolution” in the social realm will take centuries to embody itself in the everyday ecologies, technologies, and concepts of mind of the global civilization we are witness to in its embryonic form. These changes have already had an impact on traditional students of mind and brain. Nothing captures the spirit of this revolution better than philosopher John Searle’s (1992: 128) remark in his *The Rediscovery of the Mind*:

I am convinced that the category of “other people” plays a special role
In the structure of our conscious experiences, a role unlike that of objects
and states of affairs...But I do not yet know how to demonstrate these claims,
nor how to analyze the structure of the social element in individual consciousness.

Of course, Marx, Durkheim, Nietzsche and others knew how to do this long before Searle started to think about the problem. We might ask ourselves why Searle and other philosophers of mind who have had the “other people” insight

have not been able to benefit from the tradition that runs from Marx to C. Wright Mills and into our own time. The answer has a lot to do with prejudices and misconceptions about the social sciences, and an unfortunately widespread ignorance of the discoveries in these sciences. Here is another example, this one from the brain scientist Antonio Damasio (1994: 260):

To understand in a satisfactory manner the brain that fabricates human mind and human behavior, it is necessary to take into account its social and cultural content. And that makes the endeavor truly daunting.

I like to tell people (and I'd like to tell Damasio) that as a social scientist I find doing brain surgery and brain research "truly daunting;" taking into account "social and cultural content," on the other hand, is challenging but not at all daunting. Let me give one more example, this time from a mathematician and computer scientist (Stan Franklin, 1995: 10) who is reflecting on the nature of mind:

Let's not leave our discussion...without pointing out its major deficiency. There's no mention of culture. How can one hope to understand mind while ignoring the cultural factors that influence it so profoundly? I certainly have no such hope. I clearly recognize that the study of culture is indispensable to an understanding of mind. I simply don't know how to gently include culture...Perhaps anthropology and sociology should share a corner with cognitive psychology.

Sociologists and anthropologists know how to demonstrate – or are learning how to demonstrate – the claims and analyses and inclusions that elude Searle, daunt Damasio, and escape Franklin. This course is an introduction to the perspective that grounds these demonstrations.

TOWARD A SOCIOLOGY PRIMER

THE AGE OF THE SOCIAL 1840-2040

A cautionary principle: if you are going to approach sociology, do not bring your radical, conservative, liberal stickers with you ready to slap them on every idea you encounter. There are tools you can use for rooting out ideologies in the physical and social sciences, but the ones you have been given at this stage are woefully inadequate.

Some of the major figures in the Social Science Copernican Revolution



Ibn Khaldun (1332-1395), an ancestral founder of the revolution



Madame de Stael (1766-1817), a precursor of the revolution

The Revolutionary Cadre



Karl Marx (1818-1883)



Harriet Martineau (1802-1876)



Max Weber (1864-1920)



Emile Durkheim (1857-1917)



Friedrich Nietzsche (1844-1900)



Jane Addams (1860-1935)

I have given the name “The Age of the Social” to the period 1840-2040 to represent the Copernican-like revolution in our understanding of society and culture, and of the “individual” as a social construction. The individual is not the center of the social universe. Now society, culture, the group, the collective are at the center of the social universe. The Copernican revolution in the social sciences has led to a series of worldview shifting discoveries. These discoveries have remained largely invisible to the public, including the educated public. The fundamental theorem – the central dogma - behind this revolution is that people (selves and minds) and their behaviors and institutions (including family, friendship, science, religion, love, sex, war, and peace) are – to use sociological shorthand – “social constructs.” There is a great deal of confusion about the concept of “social construction,” especially in terms of its use in the sociology of science. I will do my best to clarify this idea and demonstrate that it means nothing more and nothing less than that everything human beings do, think, and feel is a product of their interactions with each other and with the material world. There are no other sources of human action and human thought.

This course is an elementary introduction to sociology as a discovering science.. It is an introduction to a perspective, a way of looking at the world around us. It is not my objective to “prove” anything to you (proofs require proof communities, and until you are a member of such a community in the social sciences, proofs make no sense). I make

certain assumptions that you should be familiar with. Sociology is a science. To say this does not mean that sociology is a sort of physics of society. What it does mean is that sociology follows certain general procedures associated with scientific inquiry. We will learn more about this – that is, the very nature of science as a social and cultural phenomenon – in one of the core readings for this course. The upshot of this is that you should not think of sociology as a philosophical discourse. Astrologers have no legitimacy in an astronomy class; opinions, ideas, and theories are not all equal in a sociology classroom. As a scientific discipline, sociology has built a structure of facts and near facts, proofs that are more or less formal (within the proof community of sociology itself, in the same way that mathematical proofs are only proofs within the proof community of mathematics), findings based on experiments, mathematical models, surveys, ethnographic research, and other methods. Some of what we know in sociology is not yet adequately codified, and my confidence here is based on a form of proof known as consilience of evidences or ensemble of probabilities. Here the evidence, while not formally or systematically organized and codified, is overwhelming by virtue of its sheer quantity combined with the convergence of many different factual tracks.

It is impossible to leap into sociology at its most scientific levels without first becoming familiar with the basic concepts and the perspective that define this field of study. I suggest, therefore, that you think of this course as a visit to a new and unfamiliar culture, and that you think of me as what anthropologists call an “informant,” that is, someone from that culture who has agreed to be your guide to this culture – to its language and to its ways of living and thinking. Another way to think about what we will be doing is to imagine I open a window for you and I point to a bunch of people outside who are practicing sociologists and just let you watch and listen to them for a while.

You will find that many of the things sociologists like me take for granted violate some of the basic things you take for granted for about the world and how it works at the human level. There are many reasons for this, reasons that have to do with how any society disables your ability to see into the inner working of your self and your social worlds. Consider, for example, the following excerpt from John LeCarre’s novel, *Absolute Friends* (2003: 326):

...I am speaking of something even more important to the development of Western society than the ballot box. I am speaking of the deliberate corruption of young minds at their most formative stage. Of the lies that are forced on them from the cradle onwards by corporate or state manipulation, if there’s a difference anymore between the two, which I begin to doubt. I am speaking of the encroachment of corporate power on every university campus in the first, second, and third worlds. I am speaking of educational colonization by means of corporate investment at faculty level, conditioned upon the observation untrue nostrums that are advantageous to the corporate investor, and deleterious for the poor fuck of a student...I am speaking of

the deliberate curtailment of free thought in our society...

If you wish to chalk this up to literary license – it is a novel, after all – consider the supportive scholarly arguments, studies, and discussions in such books as Howard Zinn, *A People's History of the United States 1492-Present* (Harper Perennial, 1995), and James W. Loewen, *Lies My Teacher Told Me* (Simon and Schuster, 1995).

A PRELUDE ON HONESTY.

You must make your experiences "a matter of conscience for knowledge. 'What did I really experience? What happened in me and around me at that time? Was my reason bright enough? Was my will opposed to all deceptions of the senses and bold in resisting the fantastic?'" You must not "thirst after things that go against reason."

We others, who thirst after reason, are determined to scrutinize our experiences as severely as a scientific experiment-hour after hour, day after day. We ourselves wish to be our experiments and guinea pigs.

A WARNING TO THE INSTRUCTOR AND HIS STUDENTS.

[Marco Polo returns home from China]. On his way home, in Java, he saw some animals that resembled unicorns, because they had a single horn on their muzzles, and because an entire tradition had prepared him to see unicorns, he identified these animals as unicorns. But because he was naïve and honest, he could not refrain from telling the truth. And the truth was that the unicorns he saw were very different from a millennial tradition. They were not white but black. They had pelts like buffalo, and their hooves were as big as elephants. " Their horns, too, were not white but black, their tongues were spiky, and their heads looked like wild boars" In fact, what Marco Polo saw was the rhinoceros.

The real problem of a critique of our own cultural models is to ask, when we see a unicorn, if by chance it is not a rhinoceros. **Umberto Eco**

Warming up

...I would not be doing the work I do, the thinking and writing I love, were it not for the many neighbors (mostly older black women) who gave me literature to read that broadened my horizons and the teachers and librarians who enabled me to pursue my longing for knowledge. Their generosity was an example to me. I endeavor to teach students that same generosity and care. Like my teachers, I do not simply hope that students will learn necessary facts and details. I hope they will learn to think critically in ways that strengthen their capacity to be self-actualized.
bell hooks

The self is something which has a development; it is not initially there at birth but arises in the process of social experience and activity. **George Herbert Mead**

The historical development of the social sciences, and of sociology and anthropology in particular, is the history of the rejection of transcendence and the supernatural, immanence, sociologism, psychologism, and philosophism.

Sal

Restivo

Course Readings (available in bookstore)

Required

Friday's Footprint: How Society Shapes the Human Mind, by Leslie Brothers (Oxford, 1997).
Social Mindscapes: An Invitation to Cognitive Sociology, by Eviatar Zerubavel (Harvard, 1997).
Genius Explained, by J.A. Howe (Cambridge University Press, 1999).

optional (on reserve)

Star Trek on the Brain: Alien Minds, Human Minds, by Robert Sekuler and Randolph Blake (W.H. Freeman, 1999).
Shakespeare's Brain: Reading with Cognitive Theory, by Mary Thomas Crane (Princeton, 2001).
Sociological Insight: An Introduction to Non-Obvious Sociology, 2nd ed., by Randall Collins (Oxford, 1992).

Recommended (not in bookstore)

Driving Mr. Albert: A Trip Across America with Einstein's Brain, by Michael Paterniti (The Dial Press, 2000).
Mistaken Identity: The Mind-Brain Problem Reconsidered, by Leslie Brothers (SUNY Press, 2001).
Regions of the Mind, by Susan Leigh Star (Stanford University Press, 1989).
The Meaning of Mind, Thomas Szasz (Syracuse University Press, 2002).
Blaming the Brain, by E.S. Valenstein (The Free Press, 1998).

For a primer on the brain – what we know and don't know about the brain -, see Thomas B. Czermer, What Makes You Tick? The Brain in Plain English (John Wiley & Sons, 2001). This is not a sociologically informed treatment of the brain (in the way, for example, that Brothers' book is). It does, however, demonstrate that many of the recent findings in brain research support the sociological view of the brain as a social production with a cultural context. I also recommend: Richard Restak, The New Brain (Rodale, 2001), Ronald Kotulak, Inside the Brain (McMeel, 2001), and Susan Greenfield, The Human Brain (Basic Books, 1997).

The philosopher Friedrich Nietzsche argued that we should make our experiences “a matter of conscience for knowledge.” Faced with any experience, we should ask ourselves “What did I really experience? What happened in me and around me at that time? Was my reasoning bright enough? Was my will opposed to all deceptions of the senses and bold in resisting the fantastic?” Do not, he urged, “thirst after things that go against reason.... We others, who thirst after reason, are determined to scrutinize our experiences as severely as a scientific experiment – hour after hour, day after day. We ourselves wish to be out experiments and guinea pigs.” In order to understand mind, brain, consciousness, thinking, brain, and self as social and cultural phenomena, we will have to be our own experiments and guinea pigs in this course. This, of course, is true in any adequate social science.

CLASS SCHEDULE

Scientific truth “refers to a transcendental world in the same way that the sacred sphere of its totems and gods rises beyond the mundane life of a tribe.” Randall Collins (1993: 302).

RAIDERS OF THE LAST ILLUSIONS



January 18. Introduction and Orientation: **Ask Einstein's Brain**. Read Chapter 1 in



Brothers for Friday.

ROMANCING THE BRAIN

January 21. A Failure to Connect. Read Chapter 2 in Brothers for Tuesday.

January 25. Building the Experience of Mind. Read Chapter 3 in Brothers for Friday.

January 28. The Brain's Social Specialization. Read Chapter 4 in Brothers for Tuesday

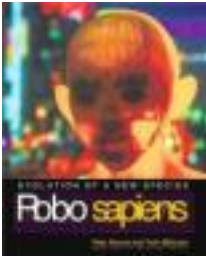
February 1. The Editor Speaks. Read Chapter 5 in Brothers for Friday.

February 4. The Shift to a Social Perspective. Read Randall Collins, Chapter 6 for Tuesday.



February 8. **I Brake for Robots.** No reading for Friday.

February 11. **The Robo Sapiens Are Coming.** Read Chapters 6 and 7 in Brothers for Tuesday.



February 15. Talking Faces and Worlds we Create. **Sal and Kismet.** Read Chapter 8 in Brothers for Friday.



February 18. In Search of Emotions. Read Chapters 9 and 10 in Brothers for Tuesday.

February 22. Psychoanalytic Performances and Narratives, and Exiles End. No reading for Friday.

February 25. Brothers Redux: Footprints in the Sand. Read Chapter 1 in Crane for Tuesday.

March 1. Did Shakespaere Have a Brain? Read Chapter 2 in Sekculer & Blake for Tuesday (no reading for Friday).

March 4. Is Data a Person or Property? Read Chapters 1 & 2 in Zerubavel for Tuesday.

ESCAPE FROM THE TEMPLE OF MIND

March 8. The Sociology of the Mind & Social Optics. Read Chapter 3 in Zerubavel for Friday.

March 11. The Social Gates of Consciousness. Read Chapter 4 in Zerubavel for Tuesday.

March 14-18. Spring Break Read Chapter 5 in Zerubavel for Tuesday March 22.

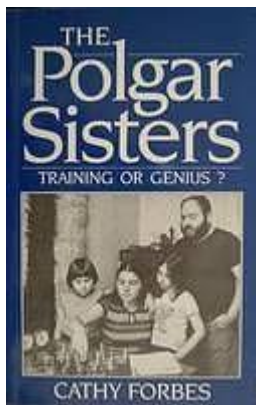
March 22. Social Mindscapes: Divisions and Meanings. Read Chapter 6 in Zerubavel for Friday.

March 25. Social Memories. Read Chapters 7 & Conclusion in Zerubavel for Tuesday.

March 29. Standard Time. Read all of Howe for Friday, April 15.

NOTE: I will be lecturing in Europe during GM week, so there will be no formal classes. I will be handing out some assignments to make up for the missed classes.

April 15. Are geniuses born, made, or ideological constructs?



April 19-May 3. The Last Episode: Making Up Our Minds

COURSE REQUIREMENTS

- 1. Class attendance. If you anticipate missing more than three classes (excused or unexcused absences), please see me. More than three absences will reduce your grade.**
- 2. One or two page comments on the readings are due each Friday. These will be graded P/F.**
- 3. This is a project-based course. You will work in groups (individual projects will be approved in special cases) and produce a poster-based presentation due May 9. Details about the projects will be discussed in class and you will**

- be able to examine exemplars from previous classes. Projects will be graded on a 10-point scale reflecting the degree to which the project reflects the objectives of the course and engages the theory and research covered in the readings and in class discussions.**
- 4. Everyone will write a final five page essay, typed and double-spaced, on their contributions to their project and the impact of the course (including the readings) on their project work. These essays will be graded on a 10 point scale.**
 - 5. Final grades are determined as follows: You must turn in at least 10 comments papers to qualify for a grade. 9-10 Ps = 80 points, 6-8 Ps = 60 points, 3-5 Ps = 40 points, 0-2 Ps = 10 points. In combination with project and final essay grades, final grades fall out as follows: 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D; 59 and lower = F.**

BIOSKETCH

DR. SAL RESTIVO is Professor of Sociology and Science Studies in the Department of Science and Technology Studies, and Professor of Information Technology in the Information Technology Program at Rensselaer Polytechnic Institute in Troy, New York. He also holds the position of Special Professor in the School of Education at Nottingham University in England. He is a founding member (1975) of and a former President (1994/95) of the Society for Social Studies of Science. He is also the founding editor of the State University of New York Press series on Science, Technology, and Society, and was the first director of Rensselaer's PhD program in Science and Technology Studies. Dr. Restivo is an honor graduate in electrical engineering of Brooklyn Technical High School (New York City), and was one of the eleven inaugural inductees into the school's Distinguished Alumni Hall of Fame (1998).

Dr. Restivo is the author of *The Social Relations of Physics, Mysticism, and Mathematics* (1983), *The Sociological Worldview* (1991), *Mathematics in Society and History* (1992), and *Science, Society, and Values: Toward a Sociology of Objectivity* (1994), and *Science, Technology, and Society: A Sociological Perspective* (2005). He is also co-editor (with C.K. Vanderpool) of *Comparative Studies in Science and Society* (1974) and co-editor (with J.P. Van Bendegem and Roland Fischer) of *Math Worlds: Philosophical and Social Studies of Mathematics and Mathematics Education* (1993); he co-edited *Degrees of Compromise: Industrial Interests and Academic Values* with Dr. Jennifer Croissant (2001). And he is the Editor-in-Chief of the *Oxford Encyclopedia of Science, Technology, and Society* (2005). During the course of his career, Dr. Restivo has carried out several ethnographic studies of science and engineering laboratories, done research on the historical sociology of science and mathematics, studied and been a consultant on problems of science policy for government agencies in the U.S., South America, and Great Britain, and worked on problems in the education of scientists and engineers. He is currently developing a sociological theory of mind and thinking (and writing *The Mind Manifesto*), and working on a book, *Nietzsche's Revenge: The End of God, Mind, and Science*. He has also written a novel that he is seeking a publisher for, *Bring Me the Brain of Nikola Tesla*. *Sociology: A Problem-Based Approach* (with Colin Beech and Richard Robbins) is under contract. And *The Rejection of Transcendence: Physics, Mysticism, and Society* is a proposal for a second edition of Part I of his *The Social Relations of Physics, Mysticism, and Mathematics*. He is the developer of the Draw a Brain protocols for studying children's concepts and images of brain, mind, and emotions.

Dr. Restivo's research has been supported by grants and fellowships from the National Science Foundation, the National Endowment for the Humanities, and other agencies. During 1985-1986, he was a Visiting National Endowment for the Humanities Fellow doing research on the historical sociology of mathematics at the Institute for the History and Philosophy of Science and Technology at Victoria College, University of Toronto. During the 1994-95 academic year, he spent the Fall semester lecturing in Great Britain. In the Spring, he was Belgian National Research Foundation Professor at the Free University in Brussels, and Nordic Research Academy Professor at the universities of Gothenburg (Sweden) and Roskilde (Denmark). Dr. Restivo was appointed Honorary Research Fellow in the School of Education at Birmingham University (UK) for 1998-99. In May 1999 he was Visiting Lecturer in mathematics and mathematics education at Copenhagen University. In April 2000, RPI awarded him the Jerome Fischbach Travel Grant

in recognition of his educational contributions to the Institute. During 2002-04 he was at Harvey Mudd College as the Hixon/Riggs Visiting Professor of Science, Technology, and Society.

Dr. Restivo, a collegiate weightlifter, became the Physical Director of the former Shelton Towers Hotel in New York City in the early 1960s while working as an instructor in the Vic Tanny gym chain. He was President and a coach of the City College of New York Weightlifting Team and Club. He has also served as a weightlifting and powerlifting official and judge for the American Athletic Union and the American Drug Free Powerlifting Association and continues to consult with clients as a personal trainer.