Bacterial Cultures and Linguistic Colonies: Mori Rintarō’s Experiments with History, Science, and Language

Thomas Lamarre

The Collected Works of Mori Ōgai (pseudonym of Mori Rintarō, 1862–1922) contains essays that discuss microbes, aesthetics, minerals, infirmaries, war strategies, water indices, character indices, nose rings, corsets, and Russian techniques for dealing with intense cold, as well as poems, novellas, and plays. It is difficult, however, to speak of the relations between these diverse topics, modes, and interests, despite their historical and textual proximity. What do microbes have to do with novellas, novellas with microbes, or infirmaries with aesthetics? Such questions are made all the more difficult by a certain intellectual division of labor that is manifested in the organization of The Collected Works, in which the scientific writings are strictly separated from the literary texts. An unthinkable divide comes between Mori’s science and his literature: even if one reads these texts in tandem, it is almost impossible to find a common logic or subjectivity.

To a certain extent, the life of Mori Rintarō invites stories about incom-
measurable differences and impossible divides. Born in 1862 in a small village on the Japan Sea, he followed in the footsteps of his father, a physician to the daimyo of Tsuru, studying the Chinese classics as well as Dutch medicine. In 1872 the daimyo sent him to Tokyo, where he received further medical training. He also studied German, which was quickly replacing Dutch as the language of medical research in Japan. Upon completing medical school in 1881, Mori joined the army with the rank of lieutenant and, in 1884, traveled to Germany to study military hygiene. There, he became interested in the emergent science of microbes and participated in the debates around Koch and Pettenkofer, as well as in military maneuvers and diplomatic missions. He also read widely in German literature and philosophy, taking to Goethe, Hartmann, Schopenhauer, and others and following the European debates on naturalism. In 1888, with the rank of captain, he returned to Tokyo to become a professor of physiology at the Army Medical School. In Tokyo, his education and experiences put him in a position to dominate scientific and literary circles. He took part in the debates on hygiene and nutrition in Japan, founded a literary magazine in which he translated Western writers and wrote essays, and taught anatomy at the Tokyo Academy of Fine Arts.

When Japan entered into war with China in 1894, Mori sailed for Korea, where he played a central role in the maintenance of military hygiene, reducing Japanese casualties and assuring victories on the continent. He returned to Tokyo, to become head of the Army Medical School; he also founded another literary journal. In 1899, the army transferred him to the small city of Kokura on the southern island of Kyushū; this was apparently as a reprimand for his vociferous insistence on modern notions of science, which challenged certain military authorities. Reprieved in 1902, he returned to Tokyo, resumed his career as a military bureaucrat, and gained ever greater recognition as a translator, dramatist, novelist, poet, and critic. He served in the Russo-Japanese War (1904–1905), largely in Korea but also briefly in Manchuria. After his return, he became the director of the Bureau of Medical Affairs for the War Bureau in 1907 and continued his literary activities. Around 1911, toward the end of the Meiji era (1868–1912), Mori shifted his literary emphasis and began to reflect on history, turning to the composition of historical fiction (shiden and rekishi
shôsetsu), which dominated his literary output till the time of his death in 1922.2

Nowadays, the career and works of Mori are for the most part the subject of literary inquiry. In The Collected Works, essays about hygiene, war, and nutrition are tucked onto the literary works, and their import is confined largely to the domain of historical or biographical background on the author. Biographies of the military doctor Mori Rintarō often sketch a portrait of a man impossibly divided in his impulses, a man bound to conflicting realms of experience and divided in his aesthetics and duties. This almost schizophrenic portrait suggests a parallel between the life of Mori Rintarō and the drama of Japanese modernization. The diversity and hybridity of his works often stand metonymically for the confusion and competing demands of the Meiji era, with which the notion of wakon yosai, or “Japanese spirit, Western techniques,” is frequently associated. Mori’s scientific, literary, and bureaucratic pursuits, deemed mutually incommensurable, ultimately stand for the turmoil of the era; the conflicts of Japanese modernity itself are crystallized in the divided figure of Mori Rintarō/Ôgai.

A number of dichotomies run through even this sketchy overview of the life of Mori Rintarō: city and countryside, “feudalism” and modernity, science and literature, art and army, empire and colony, and Japan and the West. While it is impossible to map any of these dichotomies consistently onto the others, all of them seem to be constitutive of Japanese modernity, emerging and functioning together. Usually, the opposition of Japan and the West—as in “Japanese spirit, Western techniques”—serves as a master trope and focuses attention on certain dichotomies at the expense of others. As James Fujii has pointed out about another important Meiji writer, Natsume Sôseki, scholars attend to Sôseki in England, not to Sôseki in Korea or Manchuria.3 Similarly, it is common to devote a great deal of attention to Mori in Germany and thus to think of his works in terms of a struggle to reconcile East and West, or tradition and modernity. We don’t say much about Mori in Korea and Manchuria. This silence begins with Mori’s literature itself: the literary figure Mori Ôgai says little about this other nexus. There is a series of poems written during Mori’s time on the front of the Russo-Japanese War, but these poems provide only fleeting allusions to the war or the colonies.4 They speak of loss, bereavement, and recollection, as if
the hardships of war were but an extension—or perhaps, an intensification—of personal sorrows and memories. Mori does not focus any attention specifically on the imperial theater. Germany, on the contrary, receives a great deal of attention, from both Mori Ōgai and his subsequent readers. Only in Mori Rintarō's texts on hygiene and nutrition do these other aspects of Japanese modernity come into consideration. It is precisely for this reason that this account centers on the scientific texts of Mori Rintarō rather than on the literary texts of Mori Ōgai. Ultimately, I have two interrelated goals: (1) to develop a strategy for reading between science and literature, and (2) to rethink the nexus of Japanese modernity, focusing on national expansion rather than on national consolidation (which is somewhat entrenched and tends to dwell on national isolation).

It is not easy, however, to read science in conjunction with social, historical, and rhetorical concerns. And it is not always possible to read science as a subset of a larger logic of knowledge without a complete loss of specificity. In fact, there are reasons to think it undesirable, if not impossible. In an interview, Michel Foucault claimed that it would be excessively complicated to pose the question of the relations obtaining between the "normal sciences" (such as theoretical physics or organic chemistry) and the political and economic structures of society. Therefore, he turned to the "dubious sciences" (such as psychiatry) and their relations to politics and society. Because Foucault sets apart the normal sciences in the manner of Thomas Kuhn, he was able to turn to the vast middle ground that lies between power and knowledge and attend to a kind of discursive field that brings order to the gesture and the glance, and to the utterance and the gaze, around the dubious sciences.

Such a strategy is relevant to the study of Meiji science and Mori Rintarō/Ōgai. The meditations of a critic such as Karatani Kōjin call attention to the new forms of seeing, speaking, and knowing that emerged in regard to Meiji art and literature—which Karatani relates to the formation of Japanese modernity and national subjectivity. These new forms of seeing, speaking, and knowing could, in the manner of Foucault, be further localized and related to new criteria for clinical expertise in connection with the emergence of modern institutions with historically specific modes of observation, evaluation, incarceration, and so forth. In that case, the question of
national identity or subjectivity would arise in another register, in relation
to a series of modern discursive formations. In both Karatani and Foucault,
however, it is difficult to discern certain forms of agency—microbes, chem-
icals, and so forth—for these remain the province of the normal sciences.

On the other hand, recent studies in the realm of the sociology and
anthropology of science challenge the boundary that Foucault and Karatani
leave implicitly intact—the boundary between the normal sciences and
other forms of knowledge. By challenging this boundary, scholars such as
Bruno Latour and Isabelle Stengers question the ways in which modernity
is conceptualized: at stake is not only the delineation of the normal sciences
but also the scientific criteria for modernity itself. Latour is particularly
important in this account of Mori Rintarō for three reasons: First, since
Latour deals with the emergence of bacteriology in his study of Pasteur, he
provides an important historical overlap with the work of Mori Rintarō on
military hygiene and nutrition. Second, he attempts to rethink the status of
scientific modernity, with an emphasis on the intersection of scientific, tex-
tual, and social networks. Third, by looking at the production of “quasi-
objects,” he also enables an approach to the question of material agency.7

As with Foucault or Karatani, however, a note of caution is in order. In
Latour’s studies, it is possible to think about material agency and yet it
becomes difficult to take into account certain forms of desire and subjectiv-
ity that are integral to nation, colony, or empire, and these invariably swarm
into the field of analysis. Nevertheless, because Latour affords a way to
reformulate the network of science and literature that informs the works of
Mori Rintarō, his approach helps to disturb accounts of Japanese modernity
that have become more and more conventional with respect to the emer-
gence of national subjectivity. What emerges is a story of Meiji Japan and
Japanese modernity that does not simply dwell on the formation of insular
national subjectivity in opposition to the West. It becomes possible to
explore a modern logic of hybridity that entails the incessant generation of
unthinkable mixes of microbes, poems, foodstuffs, hygienic practices, nov-
els, essays, water indices, character indices, and so forth, and to ask what
subjectivity might attend this productive cascade of hybrids.
national identity or subjectivity would arise in another register, in relation
to a series of modern discursive formations. In both Karatani and Foucault,
however, it is difficult to discern certain forms of agency— microbes, chem-
icals, and so forth—for these remain the province of the normal sciences.

On the other hand, recent studies in the realm of the sociology and
anthropology of science challenge the boundary that Foucault and Karatani
leave implicitly intact—the boundary between the normal sciences and
other forms of knowledge. By challenging this boundary, scholars such as
Bruno Latour and Isabelle Stengers question the ways in which modernity
is conceptualized: at stake is not only the delineation of the normal sciences
but also the scientific criteria for modernity itself. Latour is particularly
important in this account of Mori Rintarō for three reasons: First, since
Latour deals with the emergence of bacteriology in his study of Pasteur, he
provides an important historical overlap with the work of Mori Rintarō on
military hygiene and nutrition. Second, he attempts to rethink the status of
scientific modernity, with an emphasis on the intersection of scientific, tex-
tual, and social networks. Third, by looking at the production of “quasi-
objects,” he also enables an approach to the question of material agency.7

As with Foucault or Karatani, however, a note of caution is in order. In
Latour’s studies, it is possible to think about material agency and yet it
becomes difficult to take into account certain forms of desire and subjectiv-
ity that are integral to nation, colony, or empire, and these invariably swarm
into the field of analysis. Nevertheless, because Latour affords a way to
reformulate the network of science and literature that informs the works of
Mori Rintarō, his approach helps to disturb accounts of Japanese modernity
that have become more and more conventional with respect to the emer-
gence of national subjectivity. What emerges is a story of Meiji Japan and
Japanese modernity that does not simply dwell on the formation of insular
national subjectivity in opposition to the West. It becomes possible to
explore a modern logic of hybridity that entails the incessant generation of
unthinkable mixes of microbes, poems, foodstuffs, hygienic practices, nov-
els, essays, water indices, character indices, and so forth, and to ask what
subjectivity might attend this productive cascade of hybrids.
Later in his career, in the somewhat autobiographical 1911 story “Daydreams” ("Mōsō"), Mori Rintarō (as Ōgai) wrote about a scientist who returns from Germany to Japan and finds himself in the company of conservatives on issues of city planning, script reforms, and nutrition:

There was also a debate over improving the Japanese diet. They wanted to stop people from eating rice and make them eat lots of meat instead. I advised them that it would be better to leave the Japanese diet as it had always been, because rice and fish were so easy to digest. Not that one would prevent anyone from raising cattle and eating meat as well. . . .

So it turned out that whenever people tried to reform things, I advocated the status quo. I was thus driven into the company of conservatives.  

Oya relates this passage to “The Argument against Japanese Food May Soon Lose Its Foundation.” He asks whether the anger that Mori expresses in his defense of Japanese food can be attributed simply to an ultranationalist or conservative position. Oya himself doesn’t feel that Mori can be explained so simply. Is there not a trace of sadness behind Mori’s anger? While Oya demurs that his might be “too literary” an interpretation, he suggests that it derives from Mori’s “sadness as a Japanese.”

It is significant that Oya’s initial impulse is to distinguish between conservative nationalism and “sadness as a Japanese.” His “literary” interpretation distinguishes cultural nationalism — a sense of nationness — from political nationalism, ultranationalism, conservativism, and so forth. His interpretation of Mori’s science is part of that culturalist project. Oya writes that “of course, as an expert in hygiene, his conclusions have scientific foundation, but at bottom, is there not something else?” At bottom Oya finds nationalism: he avows that Mori is a nationalist but “not a simple nationalist.”

Another question follows quickly in the wake of this issue of nationalism. If Mori’s defense of Japanese food derives from his sadness as a Japanese, what is the status of his science? The narrator of Mori’s “Daydreams” implies that he conducted research in an attempt to prove his opinions — a bias that hardly upholds the scientific ideal of objectivity; rather, national sentiment seems to serve as the premise for his research. “Soon after my return I entered a laboratory for a year or two,” the narrator writes. “I
worked steadily, intent on providing a solid basis for my conservative views.”

Oya steers away from the conclusion that Mori’s science is, at bottom, a simple vehicle for national sentiment. That would indeed be too simple. To avoid conflating nation and science, Oya makes a distinction between literature and science; it is a distinction that leaves the problem of their interactions or interrelations unexamined, even unthinkable. He does this by exploring the rhetorical strategies in Mori’s account of Japanese food, finding two such strategies.

Oya shows how, on the one hand, Mori argues deductively from specific treatises on nutrition, then constructs an argument for Japanese food on the basis of certain socioeconomic constraints (the number of cattle in Japan, etc.). That is, Mori argues from premises or propositions that have already been proved; he proceeds from the general or universal to a particular conclusion. On the other hand, Mori also argues inductively on the basis of Japanese customs. That is, he reasons from particular facts to a general or universal conclusion. In the instance of Japanese food, he argues that if people in Japan have survived, or even prospered, on traditional foods such as rice, then a dietary regime based on rice must be adequate, legitimate, and reasonable. Once again, the narrator of “Daydreams” furnishes a summary: “Proper research would be bound to show that the Japanese, who had developed quite satisfactorily over thousands of years, did not lead so irrational a life. It was self-evident.”

Thus, Oya parses two rhetorical and logical strategies in Mori’s science: deduction and induction. His argument reaches a stalemate, however, because of the way in which he associates deduction with science and induction with literature. It is induction that imparts an emotive quality and beauty to Mori’s scientific essays, prefiguring the sadness of his later literary works (such as “Daydreams”). Moreover, induction rescues Mori from simple nationalism. Mori’s observations of “national ecology” (nashonaru na seitai)—part of the inductive strategy—open a path to internationalism. Finally, Oya argues that Mori always favors induction over deduction, and so it is that literature triumphs over science, internationalism over simple nationalism, and “nationness” over conservatism.

Now Oya’s account of Mori brings forth both the strengths and weak-
nesses of a rhetorical reading of science. I use rhetorical somewhat loosely as a label for Oya's method of analysis, in which the scholar reads science in terms of its truths and sentiments. His method could also be dubbed referential, for it presumes that words correspond neatly to objects or ideas. In a sense, my reading of Mori is equally rhetorical, but I read words as things and as effects in themselves. When Oya reads science for its sentiment, he quickly encounters the problem of national subjectivity. This is the strength of his rhetorical reading. He brings the problem of national subjectivity to the fore, hinting that science, too, has a "structure of feeling" (to borrow Raymond Williams's term). Subsequently, however, he strives to break all links between this national feeling and political or scientific institutions. To reestablish the propriety of literature, he separates Mori's impossible mixes of deduction and induction. He glosses over the way in which Mori links nation, science, and literature precisely because his project is to preserve the sanctity of Japanese literature and Mori Ogai.

What demands attention are the ways in which Mori mixes nationness with nutrition, and structures of feeling with rice and cattle. There is a middle region where science and literature, deduction and induction, instrument and sensation, and things and feelings cannot be neatly separated. It is this middle region that occupies Foucault's early notions of discourse. Foucault writes of two regions: First, there are the fundamental codes of a culture — those governing its language, its schemas of perception, its exchanges, its techniques, its values, the hierarchy of its practices — that establish an empirical order. Second, at the other extremity of thought, there are the scientific theories or philosophical interpretations that explain why order exists. "But between these two regions," he writes, "so distant from one another, lies a domain which, even though its role is mainly an intermediary one, is nonetheless fundamental: it is more confused, more obscure, and probably less easy to analyze." Thus he finds that "between the already 'encoded' eye and reflexive knowledge" there is "a middle region which liberates order itself." 17

Foucault turns to the dubious sciences to explore this middle region; he eventually arrives at the operations that come into play in the emergence of modern clinical observation and interrogation. "The observing gaze refrains from intervening: it is silent and gestureless," he writes."Observa-
tion leaves things as they are; there is nothing hidden to it in what is given. The correlative of observation is never the invisible, but always the immediately visible, once one has removed the obstacles erected to reason by theories and to the senses by imagination.”

It would not be much of a stretch to relate Mori’s mixture of science and literature to the emergence of analogous operations associated with the formation of the dubious sciences in Japan. After all, what is Mori’s method of inducing general conclusions from local customs but the beginning of modern ethnology? Similarly, as a doctor, he was part of the formation of a clinical tradition in Japan. Finally, there are techniques of observation that seem to extend into his fiction and his science. At the close of “Daydreams,” when the narrative shifts from first-person narration to third-person observations (on the previous narrator), the scientific gaze and poetic contemplation start to merge: “Apart from books, the old man plays with his small magnifying glass studying the little flowers he brings back from the dunes. He also has a Zeiss microscope with which he examines minute creatures to be found in drops of seawater. There is also a Merz telescope through which he can study the stars on cloudless nights. Odd pasttimes which serve as reminders of earlier scientific study.”

Even though this literary text differs from clinical reports or observations, it gives a sense of the middle region of which Foucault speaks. Modern apparatuses of vision expand contemplation across vast scales, from microbes to distant stars, and the tone of solitude echoes through the cosmos, out to the limits of the prosthetic eye. Mori Ōgai couples modern instruments with a lyric subjectivity via a silent and gestureless gaze. There arises in this passage, however, a hint of something that might disturb the boundaries of Foucault’s discourse — those minute creatures, the microbes, that abound in a drop of water. Foucault explores the discipline of human subjects. Is it possible to account for these microbes? Can one speak of their disciplinization? Do they have a history, an agency, or forms of resistance? With Mori, it becomes difficult to set aside the normal sciences (bacteriology) so as to explore the human sciences (ethnology). One confronts not just the clinic but also the laboratory — and entities that behave at once as objects and subjects in the social field.

It is in response to such admixtures that Bruno Latour attempts to cast the net of analysis much wider. Instead of exploring the middle region
between cultural codes and reflexive knowledge, Latour opens a “Middle Kingdom” that spans the space between humans and quasi-objects such as microbes, vitamins, ozone, scripts, or viruses. This completely transforms the way in which one discusses Mori’s treatises on Japanese food. Agency, for instance, has to be attributed to rice, and nutrition and hygiene appear not as neutral developments but as key players in the construction of boundaries and networks that continually run through and beyond nations and institutions. How is it possible to analyze the effects of the transformations in dietary regime that unfurl with national empires? How do the Japanese programs for rural revitalization in Japan and Korea transform not only social relations but the realm of quasi-objects themselves?

We are on more familiar ground when it is a question of rice and the Japanese annexation of Korea. After the Russo-Japanese War, policy makers debated the optimal form of national expansion with respect to Korea: Should Japan continue to occupy the country militarily (and risk condemnation or sanctions from foreign powers), or should it promote development in Korea to assure a powerful yet subsumed ally? Initially there was great eagerness to see Korea as a wasteland awaiting cultivation, and with the subsequent discovery that this was not true, Japanese cultivators turned their efforts to acquiring already cultivated lands in Korea. From the end of the war until annexation (1905–1911), various measures were proposed to facilitate the legal acquisition of Korean rice land, but then annexation made these measures moot.20 If this is familiar ground, it is because these are issues that foreground human agency—in the realms of territory, ownership, laws, and treaties. The kind of questions posed by Latour, however, shift our attention to the ways in which quasi-objects act rather like agents in imperial expansion.

Latour frames his argument in terms of quasi-objects to avoid some of the simplistic subject-object oppositions that continually crop up around questions of nature versus culture. A recent example would be the press given to debates about Jared Diamond’s book *Guns, Germs, and Steel: The Fate of Human Societies*, in which Diamond proposes to cut short racial speculation about the modern technological ascendancy of Europe by showing how environmental factors (not cultural or intellectual superiority) determined the outcome.21 His critics call attention to his inability to deal
with culture, that is, the ways in which human societies transform and transcend natural limitations and boundaries. Diamond replies that his scale is so large that “cultural differences become sifted to approach limits imposed by environmental constraints.” In contrast, Latour’s notion of a quasi-object is calculated to situate analysis on the border between “natural” constraints and “cultural” differences in such a way that neither nature nor culture subsumes the other.

Nevertheless, because Latour casts his net so wide, there seems to be a crisis in specificity. Suddenly, the human sciences have to confront the social sciences and the normal sciences but on a new basis, for Latour cuts short the epistemological labor that interrogates the status of truth in scientific documents. (Thus, like Diamond, he has difficulties with cultural differences, or to be more precise, with subjectivity.) Still, his is an important attempt to restate analyses of science, discourse, and society. To deal with this challenge, it is necessary to understand what causes the rise of the new sociology or anthropology. It is, first and foremost, a response to a certain type of history of science — such as that which places the debate on Japanese food within (or as a footnote to) the triumphant advance of science.

Postwar Japan saw the publication of several general histories of science (previous histories tended to center on mathematics, medicine, or natural history). In the mid-1960s, three scholars — Sugimoto Isao, Satô Shōsuke, and Nakayama Shigeru — coauthored one of the most important of these general histories of science, Kagakushi, for inclusion in a larger series on Japanese history. This work is important not only because it marks the inclusion of the history of science within Japanese historical studies but also because its authors, particularly Nakayama Shigeru, would profoundly influence English-language histories of Chinese and Japanese science through translations of their works and collaboration with Western scholars. Nakayama included the following passage, in which he mentions Mori Rintarō, in an article on Japanese nutrition:

With respect to our people’s disease, beriberi (which produced so many victims among the troops during the war with Russia and in Manchuria), regardless of the opposition of army officer Mori Rintarō, the adoption of boiled barley and rice, based on naval officer Takagi Kanehiro’s explana-
tion of our people's nutritive deficiencies, proved effective; but then Suzuki Umetarō, who studied nutrition in Germany, researched the components of rice and, through an examination of rice bran, discovered a new nutritive compound, oryzanin, which research he presented in Meiji 43 [1910]. His discovery, however, was coldly received in Japan; abroad, oryzanin was dubbed a vitamin one year after it was discovered, and later, with the ascendency of vitamin research, it was reevaluated.26

Nakayama writes of the victories of science. With respect to the prevention of diseases related to vitamin deficiency (beriberi), science initially acted on what was effective. The causes, however, were not yet clear. If boiled barley and rice proved effective, it was because barley added the required vitamin. Yet until Suzuki Umetarō arrived on the scene and discovered oryzanin (the vitamin component of rice that is polished and bleached away in the production of white rice), it was impossible to deal with the etiology of the disease.

In Nakayama's history, there are traces of a battle between science and superstition. Why was Suzuki's research received coldly? It was because people could not quite believe in minute entities such as vitamins. It was because people could not quite believe that Japanese food contained the essential nutrients, but these were scrubbed away. Only with the ascendency of vitamin research could Suzuki's efforts be properly evaluated and appreciated. In a sense, Mori's conservatism was vindicated, albeit in a strangely invisible register: Japanese food was indeed adequate. Mori felt that science would prove the soundness of custom, and in time it did. Customs, however, never stay the same, for they are subject to incessant observation, rationalization, and standardization.

Transformations were underway that Nakayama's account did not even attempt to explain. In fact, Nakayama simply conjoined the victory of Japanese science and the victory of the Japanese people. From the outset, beriberi was posed as "our people's disease" (kokuminbyō), but the site of observation and experimentation was war: our people were in fact soldiers of an imperial army. Maybe Nakayama cannot be faulted for eliding military victory and scientific victory, and for omitting an account of national expansion, on the grounds that this was how it happened. Nevertheless, this should give us pause: scientific victory meant military victory; the success of
the Japanese army was directly tied to advances in nutrition and hygiene. When Nakayama evoked this historical moment, he erased any consideration of these momentous transformations, which launched modern armies into Korea and Manchuria. He did this by writing a history of science based on the logic of victory, and because scientific victories are somehow irrefutable, the military victories of the nation were rendered less questionable. In short, science and society are inextricably entwined in a way that makes it difficult to locate a middle region. The so-called normal sciences compound the difficulties, for epistemological inquiry comes to an impasse. It is difficult to call into the question the existence or effectiveness of vitamins, or to treat them entirely as social constructs.

To rethink the relations of science and society, Isabelle Stengers suggests that we adopt a principle of symmetry in our discussions. "What is it about the new 'anthropology' or 'social history' of sciences," she asks, "that so scandalizes scientists?" And she answers,

It is written explicitly in the track opened by Kuhn, but does not manifest the same respect as he did for scientific productivity. A new discourse has been constructed that explicitly distinguishes between that which is of interest to scientists and that which should be of interest to those who study scientists. The latter, if they wish to be recognized as legitimate participants in the new field, must comply with a discipline that takes the name "principle of symmetry." It is a matter of drawing conclusions based on the fact that no general methodological norm can justify the difference between victors and vanquished.27

Stengers thus returns to the battlefield—before "sanctioned" science has won out over "outdated" science. It is not enough to tell of the victories of science, to speak of where it triumphs and where its reason becomes compromised—as in Nakayama's account of the discovery of oryzanin and vitamins, in which the triumph of reason becomes the triumph of the nation. The difference between Mūrī Rintarō and Suzuki Umetarō cannot be explained in terms of errors and certainties. Conversely, it is not justified to take the position of the vanquished as normative—as in Oya's account of Mūrī's sadness as a Japanese, in which nationness can be sanctified because it falls short of science.
The principle of symmetry extends beyond the introduction of relativism into the space between victorious science and vanquished science. Symmetry also is introduced into oppositions such as nature and culture, and modern and premodern. It is, in a sense, an anthropology of natures rather than cultures. As Latour puts it, "It is as impossible to universalize nature as it is to reduce it to the narrow framework of cultural relativism alone.... From cultural relativism, we move on to 'natural' relativism." There emerges, then, a new region of analysis between science and society—a middle kingdom of natures/cultures. The goal of the principle of symmetry (with its concerted attempt to reduce the modern world to a scale of mobilization) is not simply to make all things relative but rather to pinpoint and critique the emergence of modern sciences in terms of natural effects as well as cultural effects.

Mori Rintarō's arguments against acupuncture provide an excellent point of departure, for in his efforts to prove that acupuncture is not a science, there emerges a strange mixture of "subjective" and "objective" effects. That is to say, he treats linguistic effects as something other than projections of a subject, and his treatment of scientific effect is not quite consonant with natural causality.

**Linguistic and Scientific Effects**

In an essay titled "Acupuncture Science" ["Shinka"], Mori Rintarō responds to a letter written by Yoshida Kōdō and addressed to the Office of Internal Affairs requesting government sanction and support for the science of acupuncture. Mori addresses the question of whether acupuncture should be considered a science at all: "Yoshida Kōdō and company refer to acupuncture medicine as acupuncture science. In this letter they say: 'In view of the fact that the techniques of acupuncture heal a great variety of illnesses that medicaments do not really reach, the benefits extended to people with respect to hygiene are not insignificant, and therefore these techniques surely may be said to possess powers offering much to our society.'" Mori then comments on the way in which Yoshida's letter uses Chinese characters. Yoshida, he says, uses a compound of two characters, "stone" and "needle," to refer to traditional therapies that employ not only acupuncture-
ture needles but minerals and moxa as well. Thus, according to Mori, Yoshida claims that “stones and needles” reach illnesses that medicaments do not reach. Mori points out that the two characters for “medicament” (yakuseki) comprise the characters for “medicinal herb” (kusuri) and “stone” (ishi). In effect, Mori concludes, Yoshida is implying that stones reach beyond stones, and such illiteracy is surely to be laughed at (641).

Mori trusts a great deal to the use of language in his scientific writings. He mixes poems from ancient collections such as the Man’ yōshū (c. 759) and the Kokinshū (c. 920) in his discussions of hygiene. Frequently, he allies the finer points of language with the ability to order the world rationally. In fact, it would seem that Mori is not exactly sure how to separate the effects of kanji from those of acupuncture needles or of modern hygiene.

Now it is possible to dismiss this as failed or outdated science. The principle of symmetry, however, encourages a closer look, particularly since Mori himself is confident that he can distinguish modern science from outdated science. At this moment in the emergence of modern science in Japan, how does a scientist attempt to distinguish the effects of hygiene from those of acupuncture?

“Nevertheless,” Mori writes with respect to Yoshida and company, “to show consideration for their intent, can one say that the use of acupuncture heals a variety of illnesses that are incurable by methods and remedies other than needles and moxa cones?” (641). Mori addresses two aspects of their claims about acupuncture, namely, its medical effects and its social effects: “From the standpoint of this century’s international medicine, one cannot say that acupuncture heals illnesses that cannot be cured by other methods of healing. In other words, acupuncture has no special effectiveness” (641).

Note that Mori has great difficulties with the medical effects of acupuncture. He cannot entirely discount the notion that it does have effects. “There are those instances in which acupuncture may replace other methods of healing,” he concedes (641). And so he attempts to qualify and quantify those effects. In the first instance, he claims that modern medicine subsumes the effects of acupuncture (its effects are nothing special or additional), and then in the second instance, he proposes that modern medicine works better than acupuncture: “However, in such cases, acupuncture is not superior
to other methods. Did not Bardeleben, Gluck, and others all recognize this?" (641).

When Mori argues about the medical effects of acupuncture, he continuously resorts to a hierarchy of effects. He turns time and again to the notion that modern international medicine subsumes and outdistances traditional practices. Nevertheless, he continually acknowledges the effects of acupuncture: "Yoshida has said that 'the benefits extended to people with respect to hygiene are not insignificant.' Doesn't 'hygiene' indicate medical practices broadly? If acupuncture has no special effectiveness and is not superior to other methods of healing, its benefits with respect to medical practice are extremely insignificant" (642). Basically, Mori argues that the effects of acupuncture are not sufficiently broad. Even though he avows that it has effects, he can only dismiss them on the basis of larger effects. This is one way in which modern science attempts to prove its ascendancy: it lays claims to better and broader effects. But if modern science claims its authority on the basis of effectiveness alone, the difference is one of quantity not quality. In other words, modern science cannot remain on the turf of its opponents (who also argue from the standpoint of effects). How does Mori strive to transform the ground of debate?

"Yoshida wrote that 'these techniques may be said to possess powers offering much to our society,'" Mori continues, "His diction is obscure, but can one say that there are powers in using needles with respect to the development and survival of our society?" (643–644). This is how Mori will finally deal with Yoshida and company. He introduces another manner of discussion, one that moves science into the realm of national progress and survival: "If acupuncture has no special effectiveness, is not superior to other methods, and has few medical benefits, it is an error to say that it possesses powers with respect to the progress and survival of society" (644). In this way, Mori shifts the debate on medical effects to the problem of social effects, in an attempt to transform the field of battle. It is no longer a question of what medicine contributes to society but of how it ensures the development and survival of society. This is an important shift, for it finally allows Mori to introduce a qualitative asymmetry into the question of traditional medicine versus modern science. But what is the exact nature of this asymmetry between traditional practices and modern science? This is the
same question posed by Stengers in her discussion of the invention of modern science:

At what moment does the reference to science transform the conflict between “doctors” and “charlatans”? I will here put forth the hypothesis that it is not some manner of medical innovation that gave medicine the means to lay claim to the status of science, but the manner in which it gave a diagnosis of the power of the charlatan and an account of the reasons for disqualifying this power. According to this hypothesis, “scientific medicine” would begin when doctors “discover” that not all cures have the same value. The cure of itself proves nothing; a common magic powder or a few passes with a magnetic wand may have an effect, even though they do not have the status of cause. The charlatan is, from this point on, defined as that which takes effect as proof.\(^{30}\)

Stengers’s hypothesis aptly describes the moment of Mori’s response to Yoshida’s group. This is why, for Mori, “acupuncture medicine” can never be “acupuncture science.” Although acupuncture may produce its effects and provide cures, it takes its results and effects for proof—with no account of causes. Likewise for the Japanese diet: Mori may be sure that this diet is effective in view of the survival of those who eat rice, but without the discovery of oryzalin or vitamins, these effects cannot lay claim to the status of science. This is why Mori stresses the need for laboratory research to prove his conservative views about Japanese customs. He needs modern science to prove that indigenous customs are the causes of Japanese longevity and vitality.

Nevertheless, Mori does not express this causal logic directly. In fact, it is significant that he devotes so much attention to the effects of acupuncture. He cites German studies that show needles to have therapeutic, prophylactic, and diagnostic applications. He then stresses that the dangers of needles outweigh these benefits. In short, he seems always to argue from the perspective of effects. It is only when he introduces the notion of social progress and development that the logic of causality truly enters his account. If Yoshida and company are charlatans, it is not because their medicine has no effects but because their effects do not take the causes into account. On this topic, it is important to recall that the hygienic science of Mori’s day
involved a debate over the relation of bacteria to disease. When Mori publishes his essay “Discussions on Hygiene” [“Eiseitan”], he never doubts the reality of bacteria but outlines the debate between Pettenkoffer and Koch over whether bacteria causes disease or not. What is interesting about his discussion of acupuncture is that it relies first and foremost on the notion of cause-and-effect history to determine what is outdated. Mori attains his final condemnation of acupuncture on the basis of historical progress: “Yoshida and company pursue the Tokugawa government’s establishment of a training school for acupuncture healing; they seem to wish to see again in these days a comparable flourishing. As related above, they do not understand the historical progress of society.”

This is a complex moment in which teleological history stands in for etiological science to differentiate doctors from charlatans. Often the problem is posed the other way around. It is supposed that the human and social sciences have gone astray by attempting to adopt the parameters of the natural sciences. “The sciences of nature become the paradigm of all rational knowledge,” writes Partha Chatterjee of modernity. “And the principle characteristic of these sciences as they are now conceived is their relation to an entirely new idea of man’s control over nature... Consequently, the subject-object relation between man and nature is now subtly transferred, through the ‘rational’ conception of society, to relations between man and man.” Mori’s discussion, however, disturbs this sense of the priority of the natural sciences in introducing the subject-object divisions that serve to rationalize social relations, for the human sciences guarantee the rationality of natural sciences.

Latour suggests that we misunderstand the operations of the natural sciences. They do not entail a hierarchical division of the world into subjects and objects. On the contrary, the natural sciences enable the proliferation of quasi-objects, quasi-subjects, and hybrid effects. What masks this “middle kingdom” is a particularly modern division of intellectual practice. If we see the natural sciences in terms of subjects and objects, it is because we continue a specific division of intellectual labor.

It is precisely this problem that Latour addresses when he divides our current theoretical approaches into three camps—somewhat arbitrarily, by his own admission—to highlight the reigning divisions of labor in intellec-
tual work. He takes E. O. Wilson, Pierre Bourdieu, and Jacques Derrida—"a bit unfairly"—as emblematic figures. "When the first speaks of naturalized phenomena," he writes, "then societies, subjects, and all forms of discourse vanish. When the second speaks of fields of power, then science, technology, texts, and the contents of activities disappear. When the third speaks of truth effects, then to believe in the real existence of brain neurons or power plays would betray enormous naïveté." Latour goes on to say that it has become impossible to think of these three modes at once and that it would seem grotesque to patch these approaches together: "Our intellectual life remains recognizable as long as epistemologists, sociologists and deconstructionists remain at arm's length, the critique of each feeding on the weakness of the other two." And yet, Latour argues, for all our attempts to divide our approaches, we face global events—such as ozone depletion or the AIDS pandemic—that combine facts, power, and discourse in impossible and unthinkable formulations.

Now Latour's characterization is unfair insofar as these same thinkers can be said to break down many of the traditional intellectual divides. Moreover, his terminology seems infelicitous in that he characterizes the three realms as real, social, and discursive—as if discursive or social effects were somehow not real. After all, a number of levels of interaction and interpenetration of discursive, social, and scientific effects have been explored: (1) the transformation of language can be said to enable subject-object divisions that ground scientific discourse, and conversely, scientific observation transforms the linguistic subject; (2) sociologists suggest that scientists tend to come from particular sorts of families, and so societies that produce scientists must produce certain types of familial relations; (3) the demand for scientific training transforms education, introducing new ways of perceiving, knowing, and organizing the world; and (4) competition for governmental or industrial support introduces new power formations.

Nevertheless, Latour issues an important challenge with respect to the ways in which we read science. Analyses tend to ignore the effects of the natural sciences because they are just out there, naturally. Or we tend to treat the effects of the natural sciences with an emphasis on subjective projection and social construction. Karatani Kōjin, for instance, gives an account of the discourse on pathogens in modern Japanese literature; this
discourse is related to social and political effects that structure new power formations. Thus, Karatani signals that there is something profoundly constructed about microbes. Latour would agree that we cannot deny this constructedness, and yet we remain unable to account for the proliferation of hybrid forms of agency around quasi-objects. For Latour, the emblem of this hybrid agency is the bacterium—neither pure object nor pure subject, neither pure cause nor pure effect.

In sum, if Mori’s account of acupuncture confuses linguistic and scientific effects, it is not because he is not able to attain the certainties of modern science but because the field of modern science is replete with hybrid effects—effects that the disciplinary divisions continue to mask. Mori’s science is instructive precisely because it often seems to fail to sunder scientific and linguistic effects. It occupies an unthinkable site within contemporary theory. This becomes even clearer when one looks at Mori’s science from the standpoint of quasi-objects such as microbes—where war becomes the site of experiment, and conquered territories the site of production and reproduction of “natural” effects.36

**Linguistic and Bacterial Colonies**

A surgeon general in the United States Army, Louis Seaman, received permission to accompany the Japanese army to the front in the Russo-Japanese War to study the effectiveness of their medicine. In one of his books, *The Real Triumph of Japan*, he concludes that the war the Japanese won was fought not primarily against a human enemy but more importantly against a silent and hidden foe, disease. According to Seaman, the real triumph of Japan, “unparalleled and unapproached in the annals of war,” was for the Japanese to say, “We are willing to sacrifice the million men, but the element of disease with its terrible cost and impedimenta must be eliminated.”37 Seaman explains that “out of every one hundred men who fall in war twenty die from bullets or wounds, while eighty perish from disease, most of which is preventable. This dreadful and unnecessary sacrifice of life, especially in conflicts between Anglo-Saxon races, is the most ghastly proposition of modern war, and the Japanese have gone a long way to conquering or eliminating it” (2).
The lesson that Seaman wanted his country to learn was that there was another war to be waged in and around the actual war, a war against disease. Surely this was a strange moment in the history of warfare when it was decided that victory lay in removing all impediments to battle before the battle. War was at once deferred and omnipresent. War now entailed a concerted effort in hygiene and nutrition, work that began at home and expanded into the preparations for war and mobilization on the enemy front. Seaman’s account brings home another lesson: from the Civil War until the 1920s, the United States did not have every advantage over Japan. In fact, in hygiene and military science (as well as industry), Japan had brought itself into the forefront of modern nations. In the early twentieth century, the United States recognized its deficiencies in military hygiene and assigned personnel to follow the Japanese army into Asia, in order to learn the secrets of its success. What is more, in the postwar period, the eagerness of the American army to exploit the data from Japan’s Unit 731 in Manchuria suggests that the enchantment of the American military with Japanese expertise in biological warfare continued beyond Seaman’s day.

Seaman attributes the military triumph of Japan in part to its assimilationist capacity:

Throughout the history of the development of medicine in Japan there has been patent a constant desire to absorb everything of intrinsic value from the outside world. The Japanese trait of discarding that which is valueless and of assimilating that which is of sterling worth has been evident at every age. The encouragement to the study of sanitation has also been striking, and the relation of that to the military success of the nation, where preventable diseases in both army and navy have been reduced almost to a minimum, are worthy subjects for deeper study. (215)

This description of the Japanese character borders on cliché. Yet there are a couple of points of interest. First, because it deals with the Japanese battlefront, Seaman’s account reminds us that Japanese expansion involved the assimilation not just of ideas and objects but also of lands and peoples. This is important because the legacy of the American Occupation of Japan has done so much to transform our sense of what Japanese assimilation entailed. The contemporary myth of Japanese racial purity and homogeneity has it
that Japanese assimilation is limited to concepts, technologies, and commodities. In the days of Mori Rintarō and Louis Seaman, however, the idea of Japanese purity allowed for certain forms of linguistic and ethnic hybridity. Second, because Seaman’s account deals explicitly with the issues of infection and sanitation, it juxtaposes and even blends the logic of bacterial purification and sanitation with imperial assimilation.

In the second half of the nineteenth century, two directions emerged in the study of bacteria and the etiology of disease. In France, Louis Pasteur turned to experimental analysis to determine how infective disease is produced in the body and how recovery and immunity are brought about. In Germany, Robert Koch sought technical methods for the examination and cultivation of bacteria and developed rational principles of hygiene and prophylaxis. In effect, these two directions suggested two interlocking strategies for the elimination of infectious disease: inoculation and sanitation. At the turn of the century, the study of hygiene in Japan gathered its momentum from studies done in Germany by scientists sent there by the Japanese government. Kitasato Shisaburō, one of the most famous of these scientists, studied under Robert Koch at the Hygienisches Institut in Berlin, as did Mori Rintarō. Thus, the Japanese trajectory followed the hygienic, prophylactic, and sanitary practices associated with Koch.

Koch organized his research around the production of pure cultures of bacteria in the laboratory. He attempted to obtain a good medium for the growth of bacterial cultures, a medium that was at once sterile, transparent, and solid. Pure cultures of bacteria require a certain manual dexterity and ingenuity. The technique Koch developed—the poured-plate method—begins with the isolation of a sample from a natural source (water, air, soil, or food, with their saprophytic bacteria). The sample is introduced into a sterile and transparent liquid medium (sometimes diluted to amplify the separation of colonies), which then solidifies in a petri dish. Bacterial colonies subsequently develop from discrete (aerobic) bacteria that are near the surface of the medium. The medium can be altered to select for certain species, and various levels of disinfectant can be introduced to determine what concentrations kill the organisms. With these simple methods, Koch and his followers isolated bacteria in pure cultures and showed them to be the etiological agents of certain diseases.
It is possible to take this process as an analogy for the production of Japanese cultures in colonies such as Korea and Taiwan. There, analogous attempts were made to construct a transparent medium for cultivation with the establishment of Japanese education and standardized language. It was a process of selection and purification, as it were. This kind of analogy makes everything seem simple because it produces objects and subjects: it adopts the perspective of the administrator who naively thinks that people react passively to institutions. A similar naivete emerges in science if the scientist thinks that the passivity of bacteria allows one to treat them as objects. But there is a hitch in the laboratory construction of pure cultures, one that is often dramatized in science fiction. Bacteria refuse to remain objects. They threaten to exceed their medium and swarm out of their tubes and plates into the world. In fact, the complexity of bacteria lies in their agency, just as the complexity of Japanese colonies lay in the agency of allegedly passive subjects. This is what makes the simultaneity of national colonies and bacterial colonies so instructive. This simultaneity suggests that nation and science together produced a proliferation of quasi-objects and quasi-subjects. The hybridity of bacterial and national colonies begins with the agency of bacteria and peoples in the colonial network.

Now when we look at strategies such as inoculation and sanitation alongside the formation of the nation, we always see the purification of the nation. The nation tries to protect its corporeal sanctity by absorbing just enough of the contagion to make itself immune to invasion. Alternatively, the nation attempts to protect itself from invasion by pasteurizing its environs. In these instances, we see the nation already formed, protecting its integrity. But if we shift the emphasis slightly to the site where bacteria encounter the body, we see a boundary in the process of formation unfurling a zone of proliferation. There arises a diffracted boundary that unleashes the proliferation of hybrid effects. The very productivity of nation and science depends on the construction of these zones. It is there that we see the incredible prolixity, hybridity, and asymmetry of modernity. Latour asks why we overlook these zones from the perspective of the natural sciences. He suggests that if we overlook the real effects of science (such as military expansion through hygiene), we miss the reasons for Seaman's celebration of Japanese military hygiene: science not only transforms our attitudes toward nature, it alters nature; it is not
that nature (as an object) has come under the control of humans (as subjects) but that modernity has coupled itself with nature in a particular way, unleashing the proliferation of hybrid positions.\footnote{11}

Why do we typically not pay attention to this proliferation and interpenetration of quasi-objects and quasi-subjects? Why do we not think of modern science as a transformation or manufacture of things that operates largely through an isolation and amplification of traits and aspects, as in bacteriology? Why do we not see it as analogous to the production of the Japanese empire, to the isolation and amplification of specific customs and acts? What does all this tell us about Mori Rintarō, military doctor and administrator, on the Japanese battlefront with Louis Seaman trailing after?

Latour calls our attention to the intellectual division of labor that arises historically between social-political representation, natural-scientific representation, and textual-conceptual representation. Such divisions make visible Mori Ōgai, the literary figure, but render invisible the military doctor and administrator Mori Rintarō, who is part of the "real triumph of Japan" in Korea and Manchuria that Seaman so eagerly documents. These divisions begin with Mori Rintarō/Ōgai himself. Mori struggled to establish the independence of literature from science and worked to cover any traces of overlap in their enterprises. One of the most celebrated instances is his response to one of his literary peers, Tsubouchi Shōyō, who ardently proclaimed the principles of naturalism proposed by Émile Zola. Zola based his literary manifesto largely on the ideas of the doctor Claude Bernard, who spoke of the importance of observation and experimentation. Mori, who opposed Shōyō’s naturalism, insisted that literature maintains ideals that are independent of science. In particular, literature involves intuition rather than observation and experimentation. Thus, he challenged Zola for "never questioning the sharpness of his knife"—that is, for never doubting that dissection and analysis would reach the truth. For Ōgai, when literature turned to clinical observation, analysis, dissection, and experimentation, it lost its hold on the ideal, on intuition.\footnote{12} Since Mori devoted a great deal of effort to conceptualizing the separation of literature and science, it is fair to say that the work of the modern—as a separation of forms of representation that thwarts any attempt to make visible the middle region between political, scientific, and literary representation—begins with him.
Of course, it is easy to locate the ironies and uncertainties of Mori's position. After all, in his attack on the scientific method in literature, he signs himself Mori Rintarō and does not fail to underline that he writes "as a doctor." In fact, despite his insistence on modern divisions, it is possible to see the real work of Mori Rintarō/Ōgai in terms of a mixture of scientific, social, and literary effects on an unimaginable scale. This is particularly evident when we read his science in tandem with his fiction. The Collected Works of Mori Ōgai replicates the compartmentalization of Mori's intellectual labor by cordoning off the essays on hygiene in separate volumes, and yet within and across these texts emerge so many hybrid positions: crosses of poem and bacterium, of war and lyric, of hygiene and translation. If we temporarily forestall the urge to assign a hierarchy to these mixes in terms of foreground and background, or dominant and subordinate modes, it is evident that, despite their claims to the contrary, his works are far from separating science, society, and literature. The result is an intensely hybridized mix of facts, power plays, and fictions. This is Latour's point: only when the work of separation and purification is complete does modernity unfurl its impossible hybrids—yet hybridity no longer shows itself as such, for it continues the work of isolation and purification, concealing the production of hybrids.

There are countless moments when Mori himself demonstrates an awareness that modern productivity lies primarily not in purity but in hybridity—but these texts are less often read. In a series of aphorisms titled "Shintōgo," written around 1900, he constructs a model that crosses the boundaries of language, diet, and currency to speak of the productivity of hybridization: "Rice is a staple. Meat and vegetables are supplements." Mori evokes the logic of supplementarity, which he rapidly extends to other systems, such as the Japanese phonetic syllabary: "To rescue today's kana from the rank of supplement, value it as you would rice. There is only one way to be equal to discharging one's duty for the reform of the national script" (139–140).

Here, Mori is alluding to the debates over the unification of speech and script (genbun'itchi) that were so important in Meiji Japan. The primary goal of the Movement for the Unification of Speech and Script was to establish a standard Japanese language and script. In his interpretation of genbun'itchi, Karatani Kōjin points out, quite correctly, that the movement initially
called for phonocentrism. That is, it called for purifying the Japanese syllabary through an elimination of Chinese characters. Karatani goes into the details of this phonocentric purification. And yet, in Mori's account of dietary and scriptural supplements, it is not purification that is the productive moment. Purification of the kana syllabary is merely the first step on the way to hybridization.

“Once we discharge our duty in this matter, will there be anyone not equal to heaping their plate with supplements from the myriad scripts of the world outside our national script?” Mori continues. “We should put in Chinese characters, we should take in Roman letters, even Sanskrit, Hebrew, Greek, Cyrillic—not one may not be inserted.” Note how Mori wheels between language, diet, and political duty. First, he insists on the isolation of the Japanese national script from other scripts. But the moment of isolation and purification prepares for that of hybridization, and Mori clearly announces hybridity as the productive moment of language reform. The question arises about the authority for such productive hybridity. Obviously, it is not sufficient for someone indiscriminately to mix metaphors and make analogies to usher in hybridity. Mori cautions that the insertion of multiple scripts should not be indiscriminate. To employ various regional and urban dialects without selection and purification, he suggests, would result in a debased language, one unfit for universal thoughts and global dissemination. Subsequently, he turns to the circulation of capital to describe the moment of dissemination and hybridization. Like precious metals, scripts are to be excavated for circulation; scientists and writers are to dig through the rubbish and extract valuable and valid fragments, and these are to be forged anew and spread through the society or world.

How does Mori Rintarō/Ōgai, who writes so often of the separation of literature from science and politics, arrive at such hybridity? Karatani Kōjin locates the sources of such hybridity in premodern Japan, as opposed to the efforts at purity of modern Japan. He depicts the main trajectory of modern Japanese literature in terms of the production of interiority and transparency, and in those terms, Karatani reserves a special place for the two most revered writers of Meiji Japan, Mori Ōgai and Natsume Sōseki. On the basis of Mori’s resistance to the elimination of Chinese characters, Karatani situates Mori on the outside of Japanese modernity. In particular,
Mori's turn to historical fiction signals the resistance of the premodern to the modern:

Ōgai's deepest desires were therefore realized in the historical fiction where he wrote of samurai characters. In these works Ōgai tried to thoroughly eliminate any trace of the "psychological." In doing this Ōgai had something in common with the later Sōseki who wrote fiction in the morning and lost himself in a world of Chinese poetry and ink-brush painting in the afternoon. For both men "literature" must have retained a certain unfamiliarity; both must have developed a perspective which rejected the concept of "expression." The mainstream of modern Japanese literature continued along lines set forth by Doppo rather than Ōgai or Sōseki.47

This is quite appealing: Karatani locates the two most lauded writers of modern Japanese literature outside modern modes of representation. Basically, Karatani can do this because he avoids any association of modernity and hybridity.

For Karatani, modernity entails the production and imposition of subject-object dichotomies; he treats these dichotomies for the most part in symmetrical terms (interiority and exteriority). He never speaks of the asymmetry of subject and object (a subjection of the object), which makes possible not only the purification but also the hybridization of subject and object. As a result, he sees modernity exclusively in terms of the purification and consolidation of the interior, with the elimination of the exterior. Above all, for Karatani, Chinese characters are signs of exteriority that Japanese modernity should attempt to eliminate. And so, when he encounters a writer, such as Mori, who makes no attempt to eliminate Chinese characters, Karatani concludes that that writer is not entirely modern.

It is true that Mori is not primarily interested in the elimination of Chinese characters and the purification of the Japanese language. He is interested in a constant assimilation and hybridization of the exterior, which he relates to scientific research on the importance of dietary supplements and to economic ideas about the circulation of wealth. But contrary to Karatani's interpretation, Mori's stance on Chinese characters shows that modernity involves not just purification but hybridization.
It should be recalled that genbun’itchi comprised two phases: In the first phase, Chinese characters were seen as anathema to the establishment of a rationally phonetic script for the Japanese language. In the second phase, the standardization of Japanese for use in the colonies was at stake, and Chinese characters proved extremely useful in creating points of contact between Japanese, Chinese, and Koreans. Mori’s discussion of language reminds us that the work of modern Japan involved not only national purification and unification but also national expansion and hybridization. The two operations proceeded apace. And so, if we wish to speak of exteriority in Mori’s fiction, we have only to look at his scientific research to see that that exteriority lies not outside Japanese modernity but outside Japanese national boundaries—in the colonies and on the battlefront, in Taiwan, Korea, and Manchuria, as well as in Russia and the laboratories of Europe. Associated with the production of bacterial cultures and the transformation of their agency with respect to humans are global transformations in nature, society, and language. At the level of the bacterium, we see that the unevenness that is part of the modern becomes so pervasive because it begins with the microscopic and extends across unimaginable scales.

Latour stresses that the real work of modernity is to produce and conceal hybrids across vast scales: “Century after century, colonial empire after colonial empire, the poor premodern collectives were accused of making a horrible mishmash of things and humans, of objects and signs, while their accusers finally separated them totally—to remix them at once on a scale unknown till now.” Latour suggests that the modern mixing and hybridizing of things and humans, as well as objects and signs, remains invisible because the West is obsessed with the myth of its difference from all the rest. Westerners claim that they differ radically and absolutely, to the extent that Westerners can be lined up on one side and all the other cultures opposite (97). At the heart of modernity, however, lie unthinkable and unrepresentable hybrids; these hybrids, not pure cultures, constitute modern productivity. “Moderns,” Latour writes, “do differ from premoderns by this single trait: they refuse to conceptualize quasi-objects as such” (112). As a result, the sciences and technologies emerge in such a mysterious way that Westerners are forced to see themselves as completely different from others.
This generates a cascade of small differences that are collected, summarized, and amplified by the Great Divide, the great narrative of the West, which sets it radically apart from all other cultures.

To countermand this exceptionalism, Latour submits, rather sensational, that “we have never been modern.” The single trait that distinguishes the moderns from the premoderns is a refusal to conceptualize hybridity, a refusal that simply increases the scale of mobilization: “The fact that one collective needs ancestors and fixed stars while another one, more eccentric, needs genes and quasars, is explained by the dimensions of the collective to be held together” (108). Ultimately, Latour presents scientific modernity as a myth that can be easily deconstructed and displaced. In this respect, then, he does not give much credence to subjectivities, much less to qualities and intensities. As a result, for all the insights to be gleaned from his radical dethroning of scientific modernity and Western exceptionalism, a note of caution should be sounded. Is it so easy to annul the desire and subjectivity associated with the West, or modernity, or nationality? Latour’s argument would call attention to the middle region, where hybridity arises. Yet the term hybridity itself, with all its echoes of racial thought, draws attention to the persistence of colonial desire. On this topic, the realm of microbes can furnish some additional clues.

The work of bacterial isolation and purification takes the form of speciation (separation by species), and the work of national isolation and purification takes the form of linguistic standardization and education. The dubious term that stands between species and language is race; the term, undefinable biologically or linguistically, encompasses a little of both. This is why both Seaman and Mori speak so authoritatively of medical hygiene and national expansion in the same breath: the battlefield of the modern nation combines bacterial species and linguistic cultures in the unrepresentable site of race, and that is the site of productive hybridity. And just as the evocation and elimination of disease becomes the real military triumph of Japan, so does the evocation and elimination of race become the ideological vocation of pan-Asian colonization. This is why we, like Seaman and Mori, are still modern: as long as we evoke the logic of species alongside language, all our hybridities are mediated through purities.
Linguistic and Hygienic Experiments

It should now come as less of a surprise that Mori Rintarō/Ōgai, after devoting years to various modes for separating conceptual, political, and experimental systems, turned to a mode of writing (historical fiction) in which all of his previous divisions seem to be ignored. Many readers find that the historical fiction does not make for successful literature, for plot and narrative subjectivity fairly vanish into documentation. Then again, as Karatani points out, this apsychological mode can also be a source of literary interest. I would like to suggest a different interpretation: in the historical fiction, because the work of purification is so firmly rooted, the production of hybrids across the resultant asymmetries can proceed unhindered and unremarked. The result is not literature but a hybrid of science and literature—like ethnology (for lack of a better term).

To achieve this hybridity, Chinese characters must not be transparently representational. They must appear as objects. In one essay explaining his historical fiction, Mori laments that editors have diminished the reality effect of his stories by introducing phonetic glosses on the characters. He wants characters to stand without phonetic readings because he has come to revere the “nature” or “reality” or “spontaneity” (shizen) of the Chinese characters that appear in the old chronicles, records, and annals. Mori feels that when one fixes the reading of a Chinese character, one alters its history and reality.52

Why is this “nature” or “reality” or “spontaneity” attached to Chinese characters, especially to characters copied from old documents? On the one hand, characters should function like objects in the laboratory, according to Mori. They should speak for themselves, and their representation by the writer or scientist should be invisible. Just as the scientist presents, without mediation, a record of the actions of things, the historian of glyphs merely copies the reality of characters. This realist stance recalls, of course, the comments of Roland Barthes on the rhetorical devices that produce a sense of objective and realist history.53 On the other hand, Mori attributes an almost subjective or animate reality to characters. Characters are quite real, as are their effects, but their status with respect to object and subject remains uncertain. Recall Mori’s comments on Yoshida’s use of characters:
Yoshida, he complained, couldn't even arrange and classify their effects. Recall, too, his comments on the productivity of language: characters are supplements, and as such, they assure vitality and productivity. In sum, Mori proposes to use characters objectively, and yet he sees in them a vital force. Like bacteria, they are treated as if they were objects, but they remain quasi-objects: their effectiveness depends on their agency and on their ability to be cultivated.

Now one can argue that this view of characters as possessed of vital and generative forces is a throwback to Confucian notions of language. One can as easily argue that it is linked to the currency of vitalist thought in Mori's day. Whatever the source, it is evident that Mori combines notions of generative language with notions of objective, scientific transcription. The result is a place for experiments, full of the quasi-objects of language. I would like to say that this use of characters, in which they become bacteria-like quasi-objects, does not constitute a form of nonmodernity or premodernity in Mori's works. It constitutes the unrepresentable site of proliferation at the heart of modernity. Around this usage of characters, Mori fashions experiments that cross the boundaries between language and science (between textual and real effects, in Latour's terms). "How would it be," he asks with respect to Japanese language reform, "if we were to limit the use of characters in public documents to those found in the Thousand-Character Classic?" His conclusion invokes workplace efficiency: "Such an index (kensaku) would surely transform an hour's work into a day's work."54 The term kensaku provides a good gauge of Mori's experiments: they are at once reference works, character indices, and laboratory tests.

Mori experimented with language. He treated it objectively and apsychologically and yet generatively. As a result, words and characters enter into an operation of proliferation and hybridization, which is made invisible by calls to objectivity and unthinkable by calls to purity. The conditions for reproduction of a network of real, social, and textual effects is in place. Just as hygiene and nutrition win the real war against the silent foe by producing and hiding a proliferation of quasi-objects, so language reform produces the solid, stable, and transparent medium upon which cultures are purified, differentiated, and selected so as to mix them on an unimaginable scale.
In conclusion, I would like to look at one of Mori’s experiments with language. Although I’ve mentioned his historical fiction as the locus for his final experiments, I think that his essay “Female Hygiene” [“Joshi no eisei”] provides a better example of how his experiments with language work, especially because Mori directs his attention to the colonial network. In this piece, Mori argues about the differences between men and women and proposes that “we hygienists expound special methods of hygiene for women on account of the special disposition of women” (48). He derives the authority for this distinction from German and Chinese poets, concluding that “men regulate the exterior, women manage the interior; men are active, women are passive; men abound in creative forces, women abound in supportive forces” (48). Two points merit attention in his discussion of men and women: First, although the temptation is to relate such remarks to premodern Japan (insofar as they resonate with neo-Confucian ideals), Mori finds equivalent expressions in German poetry. This is a modern moment—of the translation and transmutation of cultures and natures. Second, Mori treats male and female in terms not only of anatomy but of disposition and generation as well. This confusion of biology and psychology comes not only from Confucian ideas about gender but also from modern science—with hints of vitalism. In other words, Mori’s remarks come from a hybrid moment in which various notions of gender converge, but these mixes and hybrids remain unrepresentable even as they proliferate. This is the hybridity of which Mori’s modernity is fashioned—and the terms for hybridity will entail the maintenance of unevenness across these apparently symmetrical categories.

Mori approaches an issue that he claims is of the hour—that of the “beauty” of female adornment. He isolates the word for “beauty” (mi) and proposes to replace it with “customs” (zoku) so as to introduce a global perspective. This replacement moves him from the transcendent to the immanent: “We hygienists have no intention of debating the true meaning of beauty from a philosophical perspective” (50). He gives an overview of female adornment in Delhi, Japan, Damascus, and France and concludes: “Since what is called ‘beauty’ in female adornment largely returns to a single word, ‘custom,’ it may be clearly understood that it is a matter of the ‘vogues’ of a particular era or region” (50). At the same time, Mori delimits
this experiment with words or characters: “We have no intention of rubbing out the character 'beauty' only to take up the character 'health' and substitute it for this, in the manner of some recent Japanese hygienists.... With respect to female adornment, we have decided that what passes for 'beauty' in the world is mostly a matter of 'custom'” (50). So it is that Mori begins his experiment in the logic of other collectives:

The women of India color their teeth black as in the past in Japan. The dancing girls of Delhi adorn their foreheads, noses, ears, and fingers with gold and paint their toenails crimson. The women of Damascus draw their eyebrows in black bows, apply rouge to their cheeks, and paint black beneath their eyes all the way to their temples. The ladies of the islands of the South Seas tattoo their legs, shoulders, and the tip of their tongue. Those daughters of black men, who wear nothing but a loincloth and glass beads around their neck, fill coconut husks with water for a mirror and paint their face in shades of blue, red, and white; they pierce the septum of their nose and their lips and place ornaments there. It is all but a single-hearted devotion to displaying “beauty.” (29:49)

In the final instance, Mori’s conclusions are unimpressive. He proposes not to prohibit corsets (or obi), which adversely affect women with their tightness; he claims that he would like only to prohibit an undue tightening of corsets. In the end, everything is in its place, but now things are sanitized and hygienic. There is strict policing of the distinction between immanent and transcendent—between custom and beauty, science and aesthetics, men and women. Mori sets in place interlocking asymmetries that separate science, literature, and politics in a way that promises to prevent adverse interactions between people and things. And yet this speciation of effects simultaneously enables an uncontrolled hybridization: we are in a realm occupied by lungs, tooth blacking, gender, native dress, social customs, and breathing restrictions. And this hybridization is not discursive alone; it couples nature and society to generate quasi-objects and quasi-subjects at every turn. But it is the premodern collectives that stand accused of confusing matters.

Thus, Mori’s experiments with facts and fictions, whether we dub it science, literature, history, or ethnography, lead to a proliferation of effects, none of which can be represented in the terms set up by drawing clear dis-
tinctions between real, textual, and social effects. How could pierced noses, pinching corsets, blackened teeth, and tightened obi be related to something like the colonial venture or reducing casualties in war? And yet such unthinkable relationships, which link things and people on a scale that is at once infinitely small and infinitely large, constitute the modernity of Mori’s experiments.

Notes

A preliminary version of this paper was presented at the Meiji Studies Conference, Edwin O. Reischauer Institute of Japanese Studies, Harvard University, 6–8 May 1994. I would like to thank Judith Farquhar and Marta Hanson, as well as Brett de Bary, for detailed comments that profoundly challenged and changed many of the initial arguments in this paper. I would also like to thank the Fonds pour la formation de chercheurs et l’aide à la recherche (FCAR) and the Social Science and Humanities Research Council.


2 I summarize Mori’s history largely from J. Thomas Rimer, Mori Ōgai (New York: Twayne Publishers, 1975). Richard Bowring, Mori Ōgai and the Modernization of Japan (Cambridge: Cambridge University Press, 1979), also is an important general source for the background of various literary and intellectual debates.


4 See Mori Ōgai, Uta nikki (Tokyo: Shunyodo, 1907). The poems in this book, which were composed between 1902 and 1905, include a number that refer to Mori’s military service. Both J. Thomas Rimer (Mori Ōgai) and Richard Bowring (Mori Ōgai) translate and discuss some of these poems.


7 Latour takes his notion of quasi-objects from Michel Serres, coming around to this definition: “Quasi-objects are between the two poles [of nature and society], at the very place around which dualism and dialectics had turned endlessly without being able to come to terms with them. Quasi-objects are much more social, much more fabricated, much more collective than the ‘hard’ parts of nature, but they are in no way the arbitrary receptacles of a full-fledged society. On the other hand, they are much more real, nonhuman and objective than those shapeless screens on which society—for unknown reasons—needed to be ‘pro-


11 Ibid.


13 Oya quotes a passage in “The Argument against Japanese Food May Soon Lose Its Foundation” in which Mori writes, “Why abandon induction and take up deduction?” Mori uses the terms *sakugempō* (going upstream to the source) and *junryūhō* (following the current), which Oya associates with the modern Japanese terms *kinaihō* and *enōkijō*, or induction and deduction. See Oya, “Mori Ōgai,” 104.


15 Oya, “Mori Ōgai,” 104.

16 The term “structure of feeling” occurs in much of Williams’s writing. It was first articulated in *Preface to Film* (with Michael Orrom; London: Film Drama, 1954) and was linked explicitly to Gramsci’s notion of hegemony in *The Long Revolution* (London: Chatto and Windus, 1961). Basically, as I cite it here, it is a critical term intended to emphasize the political implications of culture without endorsing Adorno’s vision of communications and media as fundamentally manipulative. Williams discusses it as an emergent pattern of general experience, primarily in the realm of literature and literary authors, but I would like to extend Oya’s discussions of Mori Ōgai/Rintarō’s emotion in his scientific writings to the possibility of structures of feeling in scientific communication. As Oya suggests, such structures of feeling would be linked to “nationness,” and as Latour and Stengers suggest, to military victory.


28 Latour, *We Have Never*, 106.


35 James Bartholomew (*The Formation of Science in Japan: Building a Research Tradition* [New Haven, Conn.: Yale University Press, 1989]) raises a number of these issues.


39 See Bartholomew, *Formation of Science*, 166–167; and Bowring, Mori Ōgai, 20.


Mori Ōgai, “Shōsetsuran,” in Kinoshita et al., Collected Works of Mori Ōgai, 38:451, cited in Bowring, Mori Ōgai, 66. Mori addresses the crisis spawned by Enlightenment science and medicine (which Barbara Stafford describes in the chapter on “sensing” in Body Criticism: Imaging the Unseen in Enlightenment Art and Medicine [Cambridge, Mass.: MIT Press, 1991]). When the body is dissected, its life has fled; the blade cannot obtain the very thing that it proposes to examine — life. The blade must thus go deeper. Mori, as some of his stories and essays make clear, wished to reserve the blade as a device for protection rather than examination (see Mori Ōgai, Vita sexualis, trans. Kazuji Ninomiya and Sanford Goldstein [Rutland, Vt.: C. E. Tuttle, 1972]). This preference may owe something to samurai ideology, but in any case it promised a strategic and singular asymmetry in the context of Meiji science versus literature.


Karatani, Origins, 71.

See Nanette Twine, “The Genbunitchi Movement: Its Origins, Development, and Conclusion,” Monumenta Nipponica 33, no. 3 (autumn 1979): 333–356. Twine divides the movement into two phases, a utilitarian phase and a literary phase, the latter beginning around 1887 (339). When she discusses remarks against the old style made by Onishi Hajime in 1895, she makes an interesting observation: “This verbal assault was issued soon after the victory in the war against China, when attention was focused on the Japanese language which was then for the first time to be used in territories outside Japan” (352). The coincidence of the “literary” movement of language reform and Japan’s linguistic concerns in the colonies is often overlooked or denied.

Latour, We Have Never, 39.

See Robert Young, Colonial Desire: Hybridity in Theory, Culture, and Race (London: Routledge, 1995). Young’s account of Gobineau (99–117) in particular is important in the context of Mori Rintarō, for Mori responded critically and at length to the racial notions of Gobineau and others as rehashed in Germany.

Robert Young makes a similar point about the ways in which the contemporary discourse on hybridity relies on the evocation of prior purity, but he feels that it can be dialectically doubled and redoubled to the point that it undoes its origins. See ibid., 25.

Mori Ōgai, “Rekishi sono mama sono banare,” in Kinoshita et al., Collected Works of Mori Ōgai, 7:105. Bowring translates shizen as “nature” (Bowring, Mori Ōgai, 217). Darcy Murray renders it “reality” in his translation of this piece in The Incident at Sakai and Other Stories,
vol. 1 of *The Historical Literature of Mori Ōgai*, ed. David Dilworth and J. Thomas Rimer (Honolulu: University of Hawai‘i Press, 1977), 151. A literal translation of *shizen* along the lines of classical Chinese might be “that which is so of itself,” a translation that corresponds well to Mori’s interest in “history as it is” and the “past just as it is.”


55 Mori Ōgai, “Joshi no eisei,” in Kinoshita et al., *Collected Works of Mori Ōgai*, 29:48–51. “Joshi no eisei” was originally published under the name “Kenbisaishujin” in *Eisei shinshi*, no. 2 (25 August 1889), in the “Ronsetsu” column.