

ADVANCED READING

PASSAGE 1

It is a fundamental tenet of geophysics that the Earth's magnetic field can exist in either of two polarity states: a "normal" state, in which north-seeking compass needles point to the geographic north, and a "reverse" state, in which they point to the geographic south. Geological evidence shows that periodically the field's polarity reverses and that these reversals have been taking place at an increasing rate. Evidence also indicates that the field does not reverse instantaneously from one polarity state to another; rather, the process involves a transition period that typically spans a few thousand years. Though this much is known, the underlying causes of the reversal phenomenon are not well understood. It is generally accepted that the magnetic field itself is generated by the motion of free electrons in the outer core, a slowly churning mass of molten metal sandwiched between the Earth's mantle (the region of the Earth's interior lying below the crust) and its solid inner core. In some way that is not completely understood, gravity and the Earth's rotation, acting on temperature and density differences within the outer core fluid, provide the driving forces behind the generation of the field. The reversal phenomenon may be triggered when something disturbs the heat circulation pattern of the outer core fluid, and with it the magnetic field. Several explanations for this phenomenon have been proposed. One proposal, the "heat-transfer hypothesis," is that the triggering process is intimately related to the way the outer core vents its heat into the mantle. For example, such heat transfer could create hotter (rising) or cooler (descending) blobs of material from the inner and outer boundaries of the fluid core, thereby perturbing the main heat-circulation pattern. A more controversial alternative proposal is the asteroid-impact hypothesis. In this scenario, an extended period of cold and darkness results from the impact of an asteroid large enough to send a great cloud of dust into the atmosphere. Following this climatic change, ocean temperatures drop and the polar ice caps grow, redistributing the Earth's seawater. This redistribution increases the rotational acceleration of the mantle, causing friction and turbulence near the outer core-mantle boundary and initiating reversal of the magnetic field. How well do these hypotheses account for such observations as the long-term increase in the frequency of reversal? In support of the asteroid-impact model, it had been argued that the gradual cooling of the average ocean temperature would enable progressively smaller asteroid impacts (which are known to occur more frequently than larger impacts) to cool the Earth's climate sufficiently to induce ice-cap growth and reversals. But theories that depend on extra-terrestrial intervention seem less convincing than theories like the first, which account for the phenomenon solely by means of the thermodynamic state of the outer core and its effect on the mantle.

PASSAGE 2

Until recently, few historians were interested in analyzing the similarities and differences between serfdom in Russia and slavery in the United States. Even Alexis de Tocqueville, who recognized the significant comparability of the two nations, never compared their systems of servitude, despite his interest in United States slavery. Moreover, the almost simultaneous abolition of Russian serfdom and United States slavery in the 1860s—a riveting coincidence that should have drawn more modern scholars to a comparative study of the two systems of servitude—has failed to arouse the interest of scholars. Though some historians may have been put off by the forbidding political differences between nineteenth-century Russia and the United States—one an imperial monarchy, the other a federal democracy—a recent study by Peter Kolchin identifies differences that are illuminating, especially with regard to the different kinds of rebellion exhibited by slaves and serfs. Kolchin points out that nobles owning serfs in Russia constituted only a tiny proportion of the population, while in the southern United States, about a quarter of all White people were members of slave-owning families. And although in the southern United States only 2 per cent of slaves worked on plantations where more than a hundred slaves worked, in Russia, almost 80 per cent of the serfs worked for nobles who owned more than a hundred serfs. In Russia, most serfs rarely saw their owners who tended to rely on intermediaries to manage their estates, while most southern planters lived on their land and interacted with slaves on a regular basis. These differences in demographics partly explain differences in the kinds of resistance that slaves and serfs practiced in their respective countries. Both serfs and slaves engaged in a wide variety of rebellious activity, from silent sabotage, much of which has escaped the historical record, to organized armed rebellions, which were more common in Russia. The practice of absentee ownership, combined with the large numbers in which serfs were owned, probably contributed significantly to the four great rebellions that swept across Russia at roughly fifty-year intervals in the seventeenth and eighteenth centuries. The last of these, occurring between 1773 and 1774, enlisted more than a million serfs in a futile attempt to overthrow the Russian nobility. Russian serfs also participated in smaller acts of collective defiance called the *volnenie*, which typically started with a group of serfs who complained of grievances by petition and went out on strike. Confrontations between slaves and plantation authorities were also common, but they tended to be much less collective in nature than those that occurred in Russia, probably in part because the number of workers on each estate was smaller in the United States than was the case in Russia.

PASSAGE 3

Innovations in language are never completely new. When the words used for familiar things change, or words for new things enter the language, they are usually borrowed or adapted from stock. Assuming new roles, they drag their old meanings along behind them like flickering shadow. This seems especially true of the language of the contemporary school of literary criticism that now prefers to describe its work simply and rather presumptuously as a theory but is still popularly referred to as poststructuralism of *deconstruction*. The first neologisms adopted by this movement were *signifier* and *signified*, employed to distinguish arbitrariness of the term we choose. The use of these particular terms (rather than, respectively, *words* and *thing*) underlined the seriousness of the naming process and its claim on our attention. Since in English "to signify" can also mean "to portend," these terms also suggest that words predict coming events. With the use of the term *deconstruction* we move into another and more complex realm of meaning. The most common use of the terms *construction* and *deconstruction* is in the building trades, and their borrowing by literary theorists for a new type of criticism cannot help but have certain overtones to the outsider. First, the usage suggests that the creation and critical interpretation of literature are not organic but mechanical processes; that the author of any piece of writing is not an inspired, intuitive artist, but merely a laborer who cobbles existing materials (words) into more or less conventional structures. The term *deconstruction* implies that the text has been put together like a building or a piece of machinery, and that it is in need of being taken apart, not so much in order to repair it as to demonstrate underlying inadequacies, false assumptions, and inherent contradictions. This process can supposedly be repeated many times and by many literary hard hats (a conservative who is intolerant of opposing views); it is expected that each *deconstruction* will reveal additional flaws and expose the illusions or bad faith of the builder. The fact that deconstructionists prefer to describe their activities as *deconstruction* rather than *criticism* is also revealing. *Criticism* and *critic* derive from the Greek *Kritikos*, "skillful in judging, decisive." Deconstruction, on the other hand, has no overtones of skill or wisdom; it merely suggests demolition of an existing building. In popular usage criticism suggests censure but not change. If we find fault with a building, we may condemn it, but we do not carry out the demolition ourselves. The deconstructionist, by implication, is both judge and executioner who leaves a text totally dismantled, if not reduced to a pile of rubble.

PASSAGE 4

(The following passage was written in 1986)

The legislation (the enactments of a legislator or a legislative body) of a country recently considered a bill designed to reduce the uncertainty inherent in the ownership of art by specifying certain conditions that must be met before an allegedly stolen work of art can be reclaimed by a plaintiff. The bill places the burden of proof in reclamation litigation entirely on the plaintiff, who must demonstrate that the holder of an item knew at the time of purchase that it had been stolen. Additionally, the bill creates a uniform national statute of limitations for reclamation of stolen cultural property. Testifying in support of the bill, James D. Burke, a citizen of the country and one of its leading art museum directors, specially praised the inclusion of a statute of limitations; otherwise, he said, other countries could seek to reclaim valuable art objects, no matter how long they have been held by the current owner or how legitimately they were acquired. Any country could enact a patrimony law stating that anything ever made within the boundaries of that country is its cultural property. Burke expressed the fear that lead to ruinous legal defense costs for museums. However, because such reclamation suits have not yet been a problem, there is little basis for Burke's concern. In fact, the proposed legislation would establish too many unjustifiable barriers to the location and recovery of stolen objects. The main barrier is that the bill considers the announcement of an art transaction in a museum publication to be adequate evidence of an attempt to notify a possible owner. There are far too many such publications for the victim of a theft to survey, and with only this form of disclosure, a stolen object could easily remain unlocated even if assiduously searched for. Another stipulation requires that a purchaser show the object to a scholar for verification that it is not stolen, but it is a rare academic who is aware of any but the most publicized art thefts. Moreover, the time limit specified by the statute of limitations is very short, and the requirement that the plaintiff demonstrate that the holder had knowledge of the theft is unrealistic. Typically, stolen art changes hands several times before rising to the level in the marketplace where a curator or collector would see it. At that point, the object bears no trace of the initial transaction between the thief and the first purchaser, perhaps the only one in the chain who knowingly acquired a stolen work of art. Thus, the need for new legislation to protect holders of art is not obvious. Rather, what is necessary is legislation remedying the difficulties that legitimate owners of works of art, and countries from which such works have been stolen, have in locating and reclaiming these stolen works.

PASSAGE 5

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