

and their cold and mathematical sound has no sentimental associations that can bribe our partiality either way in advance. Now, evidence of an external kind to decide between determinism and indeterminism is . . . strictly impossible to find. Let us look at the difference between them and see for ourselves. What does determinism profess?

It professes that those parts of the universe already laid down absolutely appoint and decree what the other parts shall be. The future has no ambiguous possibilities hidden in its womb: The part we call the present is compatible with only one totality. Any other future complement than the one fixed from eternity is impossible. The whole is in each and every part, and welds it with the rest into an absolute unity, an iron block, in which there can be no equivocation or shadow of turning.

With Earth's first Clay They did the Last Man knead,
And there of the Last Harvest sow'd the Seed:
And the first Morning of Creation wrote
What the Last Dawn of Reckoning shall read.²

Indeterminism, on the contrary, says that the parts have a certain amount of loose play on each other, so that the laying down of one of them does not necessarily determine what the others shall be. It admits that possibilities may be in excess of actualities, and that things not yet revealed to our knowledge may really in themselves be ambiguous. Of two alternative futures we now conceive, both now may be really possible; and the one only become impossible at the very moment when the other excludes it by becoming real itself. Indeterminism thus denies the world to be one unbroken, unbending unit of fact. It says there is a certain ultimate pluralism in it; and, so saying, it corroborates our ordinary unsophisticated view of things. To that view, actualities seem to float in a wider sea of possibilities from out of which they are chosen; and, *somewhere*, indeterminism says such possibilities exist, and form a part of truth.

Determinism, on the contrary, says they exist *nowhere*, and that necessity on the one hand and impossibility on the other are the sole categories of truth. Possibilities that fail to get realized are, for determinism, pure illusions: They never were possibilities at all. There is nothing inchoate, it says, about this universe of ours; all that was or is or shall be actual in it, having been from eternity necessarily and virtually there. The cloud of alternatives [that] our minds escort this mass of actuality withal³ is a cloud of sheer deceptions, to which "impossibilities" is the only name that rightfully belongs.

The issue, it will be seen, is a perfectly sharp one, which no eulogistic terminology can smear over or wipe out. The truth *must* lie with one side or the other, and its lying with one side makes the other false.

The question relates solely to the existence of possibilities, in the strict sense of the term, as things that *may*, but *need* not, be. Both sides admit that a volition, for instance, has occurred. The indeterminists say another volition might have

²Omar Khayyám, *Rubáiyát*, trans. Edward Fitzgerald, Stanza 79. Omar Khayyám (about 1048–1122) was a Persian poet and astronomer. [D. C. ABEL]

³*withal*: with. [D. C. ABEL]

occurred in its place; the determinists swear that nothing could possibly have occurred in its place. Now can *science* be called in to tell us which of these two point-blank contradictors of each other is right? Science professes to draw no conclusions but such as are based on matters of fact, things that have actually happened. But how can any amount of assurance that anything actually happened give us the least grain of information as to whether another thing might or might not have happened in its place? Facts can only prove facts. With things that are possibilities and not facts, they have no concern. If we have no other evidence than the evidence of existing facts, the possibility-question must remain a mystery never to be cleared up.

And the truth is that facts practically have hardly anything to do with making us either determinists or indeterminists. Sure enough, we make a flourish of quoting facts this way or that; and, if we are determinists, we talk about the infallibility with which we can predict each other's conduct, while, if we are indeterminists, we lay great stress on the fact that it is just because we cannot foretell each other's conduct, either in war or statecraft or in any of the great and small intrigues and businesses of men, that life is so intensely anxious and hazardous a game. But who does not see the wretched insufficiency of this so-called objective testimony on both sides? What fills up the gaps in our minds is something not objective, not external. What divides us into possibility men and anti-possibility men is different faiths or postulates—postulates of rationality. To this man the world seems more rational with possibilities in it, to that man more rational with possibilities excluded. And talk as we will about having to yield to evidence, what makes us monists or pluralists,⁴ determinists or indeterminists, is at bottom always some sentiment like this.

[DETERMINISM AND CHANCE]

The stronghold of the deterministic sentiment is the antipathy to the idea of chance. As soon as we begin to talk indeterminism to our friends, we find a number of them shaking their heads. This notion of alternative possibility, they say, this admission that any one of several things may come to pass, is, after all, only a roundabout name for *chance*; and chance is something the notion of which no sane mind can for an instant tolerate in the world. What is it, they ask, but barefaced crazy unreason, the negation of intelligibility and law? And, if the slightest particle of it exist anywhere, what is to prevent the whole fabric from falling together, the stars from going out, and chaos from recommencing her topsy-turvy reign?

Remarks of this sort about chance are apt to put an end to discussion about as quickly as anything one can find. I told you a short while ago that "chance" was a word I wished to keep and use. Let us then examine exactly what it means, and see whether it ought to be such a terrible bugbear to us. I fancy that squeezing the thistle boldly will rob it of its sting.

⁴*Monists* hold that there is just one kind of ultimate reality; *pluralists* hold that there is more than one kind of ultimate reality. [D. C. ABEL]