ON LOCATING DISASTER

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Imagine a man, unknown to you, standing outside your window calmly clasping and unclasping his hands three times each hour. If you ask “What is he doing?” you would not likely be satisfied with these words: “He’s clasping his hands three times per hour.” There is something uncanny about the whole scene, not only because the point of clasping one’s hands three times per hour is entirely unclear; you want to know “What’s he doing in my backyard?”

There is a similarly unnerving quality about descriptions of the Columbia disaster. All such case studies tempt us to equate the task of moral reasoning with that of locating blame. Rodney Rocha, the engineer who chairs the Debris Assessment Team, strongly objected to the decision by Linda Ham (chair of the Mission Management Team) to withdraw three separate pleas made by subordinates to the Department of Defense for assistance by satellite and ground facilities in order to obtain higher resolution images of the damaged shuttle while it was still in flight. Ham reasoned that further imaging was too expensive and frankly, too late to be of any use. Rocha insisted Ham’s decision was “wrong” and “bordering on irresponsible,” because both the stakes and the probability of failure were high enough to trump all consideration of costs and practicality. Thus one engineer is pitted against another.

However, if we are honest with ourselves, affixing blame would not entirely remove our sense of unease. Like the description of the stranger (factual as far as it goes) — “he’s clasping his hands three times per hour” — we suspect that there is something missing from the description, and consequently something anemic about our moral reasoning about this tragedy.

Sometimes a fresh insight can be generated by the most surprising of conversation partners. All but forgotten, 12th century mystical theologian Hugh of St. Victor was among the first philosophical theologians up
to his time to give a positive assessment of “mechanical arts.”\(^2\) He once wrote that all of creation labors against an inherent principle of corruption called “sin.” The fact that the natural world slouches toward corruption has two consequences. In the first place, this physical world is not Eden. In modern parlance, entropy increases, things fall apart, and only by expending great energy can disaster be averted, and then only sometimes and only temporarily. In Hugh’s mind, figuring out how best to stave off physical calamity was the provenance of the engineer; mechanical arts have to do with fortifying the body against hunger and harm and contriving “remedies” for alleviating physical weaknesses resulting from the corruption of creation by sin.\(^3\) To the extent mechanical reasoning is distinct from both theoretical and practical reasoning, the question, “Who is right between Ham and Rocha?” reduces to “Whose mechanical reasoning is sharper?” Unfortunately, those of us who are under-trained in engineering are constrained to be spectators to their debate.

In the second place, Hugh also maintained that human beings are depraved. In other words, humans can never be fully trusted. They are not only capable of enormous intentional evil (Hitler), but also of lesser misdeeds stemming from illness, physical fatigue, inadequate training as well as from darker causes such as laziness, inattention, selfishness and the will-to-power. Again Hugh makes a useful point. Since engineering judgment figures so prominently in assessing culpability, we ought to consider whether and how far engineering judgment can be skewed when someone like Rocha may have an ax to grind or someone like Ham may be bucking for promotion.

But there is more going on in this case than the Rocha-Ham rivalry. If we extend the horizon of description slightly, we learn that “this mission was a yawn — a low-priority ‘science’ flight forced onto NASA by Congress and postponed for two years because of a more pressing schedule of construction deliveries to the International Space Station.”\(^4\) Forced? If Langewiesche’s report is taken at face value, we see that the context of the Columbia disaster not only involved a conflict between two engineers but also a power struggle between two institutions jockeying for control over a big ticket item; a single shuttle flight involves spending $300 million.\(^5\) NASA wanted to keep using shuttle flights to deliver building materials to the International Space Station. But at the end of the day, Congress controls the purse strings with the result that NASA begrudgingly launched this flight “as much to clear the books as to add to human knowledge.”\(^6\) One gets the sinking feeling that something has
gone awry, that engineering and science is perhaps more deeply embedded in power politics than we might have previously wished to imagine.

The tainting of technology by issues of power would not surprise Hugh. What would surprise him is our seeming unawareness of what science and engineering are for. Activities such as growing food efficiently, protecting the body from harm, and alleviating physical weakness are pen-ultimate goals. The ultimate goal is reunion with God and love of neighbor. What is easily overlooked in the Columbia disaster is not only the struggle between NASA and Congress, but the apparent disconnect of the space program from greater human goods.

Langewiesche summarizes the significance of the Columbia flight this way,

it had gone nowhere except into low Earth orbit, around the globe every ninety minutes for sixteen days, carrying the first Israeli astronaut, and performing a string of experiments, many of which, like the shuttle program itself, seemed to suffer from something of a make-work character — the examination of dust in the Middle East (by the Israeli, of course); the ever popular ozone study; experiments designed by schoolchildren in six countries to observe the effect of weightlessness on spiders, silkworms, and other creatures; an exercise in “astroculture” involving the extraction of essential oils from rose and rice flowers, which was said to hold promise for new perfumes; and so forth.\(^7\)

Perhaps not exactly a “wasted” mission. But how are we to think about the costs of the space program in light of other human needs? With an average of eight flights per year, the space shuttle program costs $2.4 billion each year. But that is pittance in light of the estimated cost projected for the International Space Station: $100 billion over the course of its lifetime.\(^8\) One hundred billion dollars. That is enough money to retire the national debts of Sudan, Cote D’Ivoire, Angola, Myanmar, Yemen, Republic of Congo, Honduras, Ethiopia, Tanzania, Bolivia, Somalia, Lao PDR, Mozambique, Ghana, Mali, Senegal, Liberia, Cameroon, Uganda, Malawi, Togo, Guinea, Burundi, Madagascar, Benin, Central African Republic, Zambia, Chad, Nicaragua, Mauritania, Burkina Faso, Niger, Guyana, Rwanda, Gambia, and Sierra Leone combined. In fact, $100 billion is fourteen times more than the total spent by all of these govern-
ments on health and education of their nearly a half a billion people. Where is the real disaster?

It is, of course, patently ridiculous to assume that canceling NASA’s budget would guarantee revenues for feeding and educating the world’s poorest thirty-six nations. As Hugh would be quick to point out, the road to mercy is likely too littered with graft for that to ever happen! Nevertheless, his theological realism is like an iron supplement for our anemia: when we remember to broaden the horizon of our descriptions, even technological disasters can become an important occasion for rethinking the human Good.

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NOTES


6 Langewiesche, “Columbia’s Last Flight.”

7 Ibid.
