# OFFSHORE DRILLING: ACCOUNTABILITY
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On April 20, 2010, an explosion aboard the Deepwater Horizon offshore oil rig killed eleven workers, followed by the disintegration of the rig, followed the slow destruction of vast tracts of the ecosystem in the Gulf of Mexico. Along with millions around the world I have watched T.V.'s twenty four hour coverage of the Gulf oil spill and particularly the spigot from which millions of gallons of raw oil and gas has spewed from a Proterozic underworld of volatile carbohydrates into the habitable surface of our Twenty-First Century material planet. Recently, I watched the C-Span broadcast of the joint investigation of the U.S. Coast Guard and the U.S. Materials Management Service into what happened in the fateful hours preceding the disaster. I was fascinated by the account of Christopher Pleasant a subsea supervisor with Transocean the rig operator, who had an almost photographic memory of the timeline before the explosion occurred. More than fascinated I was impressed when he testified that he disregarded his superior's orders to refrain from actuating the emergency disconnect system (EDS) that if working properly would disengage the platform from the well. Another explanation of what occurred, alleges that Mr. Pleasant hesitated, waiting for approval from his superior before activating the EDS. One or more tribunals will judge which account to believe.

Regardless which version attains the imprimatur of officialdom, Mr. Pleasant's actions remind me of the difference between responsibility and accountability, two of the mainstays in this fiasco that have been lost along with the relative virginity of the Gulf of Mexico's ecosystem. Responsibility is the notion that every person must act to fulfill their moral duty regardless of consequences. The matter of responsibility goes to the heart of personal integrity with respect to a specific action, such as hitting the switch on the EDS, superior's orders notwithstanding.

Accountability is the condition that attaches to the quality or quantity associated with a requirement to perform. Literally it means to account for or justify an action, typically after the fact. In judging accountability generally, we establish *a priori* expectations. Responsibility on the other hand is the condition that carries with it a requirement to perform or literally to respond. In this instance the individual acts within a standard of care, from which it is determined if a response or refrain from response is warranted or required. In law we sometimes refer to a 'reasonable person standard' and in some special instances, a greater standard depending on the status or role the individual may find themselves.

In simple systems, accountability and responsibility often run in parallel, vested in the same individual who is both responsible for acting and accountable for the outcome. In complex technology based systems responsibility and accountability are often distributed among diverse interests. Mr. Pleasant, would seem responsible for hitting the switch for the initiation of the EDS, but not responsible for the failure of the switch to result in the actuation of the blow out protector (BOP), which was supposed to set in motion the safe

disengagement of the rig from the pipeline. In matters of large scale life altering activities, such as affecting the entire ecosystem (nuclear plants, drilling oil from beneath the ocean floor) or entire economic systems (trading in high risk synthetic securities) or entire social systems (war), responsibility and accountability appear to be inversely related to the structure or hierarchy upon which large complex systems are constructed.

A simple way to envision the hierarchy of the responsibility/accountability dichotomy is to imagine a series of concentric circles, sort of like our planetary solar system, but where each circle delineates from the center outwards, a specific socially constructed entity responsible or accountable for the item it encircles. For example, imagine that a process (e.g., well drilling) or business practice (trading in derivatives) exists in the center or the heart of our socially constructed planetary system. Then next outer circle would be the corporate entities responsible and accountable for the process or things performance, which usually consists of personnel, safety systems, policies and practices that manage the central activity. Following this is another circle enclosing the first two that represents the industry that sets the goals (often economic) and establishes a modicum of self-regulation. In like manner, another circle encloses the political entities that insure that the inner elements operate in accordance with the cultural norms and constitutional requirements of the society it represents. And, finally, there is a circle that represents the social fabric of our existence, the institutions, our myriad relationships and the focus of a society's aspirations. In each of the elements of this planetary hierarchy requirements exist for responsibility and accountability pursuant to law and consistent with elements for standard of success.

At one end of the spectrum is where responsibility is strong and accountability weak, ironically one who shirks responsibility is punished severely (just deserts are often penal, reputation), but at the other end of the spectrum where accountability is strong and responsibility is weak, one who fails his accountability rarely suffers personal loss (just deserts are financial, which are often affordable, or status). The further from the center an element is the more accountable than responsible it is. After all, society will be held most accountable for the travesty in the Gulf and very directly suffer from damages leveled. A modern leader may be responsible for going to war, or creating a system of trading high risk securities, but is only willing to accept accountability when the war goes bad or the trading system brings the world's economic system to its knees. It is axiomatic that we can only assess the level of accountability when we determine to whom the entity or person answers regarding that which they are charged with action or restraint. The farther out one ventures from the center the more diluted the responsibility for the "heart of the matter" and the less blameworthy according to the current convention.

Catastrophic alterations to our ecology are not new. Just consider the process of bringing to extinction a wide range of the world's once living animal and plant species. The difference we experience today is in the speed with which the modern catastrophe can occur (technology has helped speed things along). Regarding the latest assault on society, we need to ask was there anyone in a position of authority that might well in advance of the oil eruption on April 20, that could have predicted what might have happened if the BOP failed at 5,000 feet? Apparently not. And, not because individuals were

irresponsible or because they were self-serving at times, or worse nefarious and cold hearted robber barons. No, the problem rests in a culture that has failed to stretch the onus of responsibility from those in the immediate surrounding vicinity of the innermost circle to the outer segments of the social-technologic-political system. Lawmakers, bureaucrats and corporate managers need to be not just be held accountable, but responsible, for what can go wrong with a technological or business entity, held responsible for hitting the buttons to prevent the initiating events that lead to adverse consequence.

Humanity constitutes a cycle of natural patterns that form our very existence. These patterns do not merely express the rules of reproduction and survival; they express the form of life through a consciousness and a conscience of social constructs. This includes a moral catechism, albeit authored within the realm of the narrative of the individual, her culture and the times to which she is born. Our social reality creates the very technology that affects where this life cycle both begins and ends. If through an irresponsible and irreversible application of technology we were to damage the patterns formed by nature, we would be accountable for affecting the moral ecology upon which all humanity as we have come to appreciate depends. I believe that the moral ends that one might objectively adopt ought to aim at securing the integrity of our natural patterns of formation; otherwise, we risk moving into patterns that looking forward might be sadly regrettable. I believe we need to rethink how we apportion responsibility.