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## Sustainable Development and the Reconciliation of Opposites

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## **SUSTAINABLE DEVELOPMENT AND THE RECONCILIATION OF OPPOSITES**

ALISON PECK\*

### ABSTRACT

This Essay proposes a shift in thinking about the project of sustainable development. Many legal scholars have lamented the limitations of the concept: in cases where no win/win outcome can be identified even after the most careful and coordinated measurement, they argue, the old power struggles between proponents of economics, environment, and equity will be entrenched. This Essay agrees that sustainable development, by definition, encompasses irresolvable tensions. But this fact becomes less troubling if we abandon the Enlightenment-influenced rationalism that demands such resolution, and instead consider sustainable development through more anti-rationalist traditions: the analytical psychology of Carl G. Jung, and philosophical Taoism. Both traditions conceive of irreconcilable opposites not only as part of any energetic system but as essential to transformation and growth in the system. The Essay concludes by exploring the emerging bases of agreement between these anti-rationalist epistemologies and the classically rationalist field of quantum mechanics. From these perspectives, the irreconcilability of opposites espoused within the sustainable development concept may represent the concept's potential rather than its failure.

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## ESSAY

*Change is a book you cannot push away.  
Its way is always shifting.*

...

*First follow the words and feel their meanings in your heart.  
Then suddenly the way to act arises.  
If you are unwilling to do this, the way will not open to you.<sup>1</sup>*

Lately, the world seems consumed by anger. We have too much Socialist-style government: throw it all into Boston Harbor. We have under-regulated corporate despotism: occupy Wall Street. For the sixty percent of the population born too late to remember much about Vietnam,<sup>2</sup> the rage and sadness swirling through even our most well-appointed streets and parks and supermarket parking lots is becoming ever harder to fathom. Anger is rampant, but ideas for change are few: the Tea Party, while ostensibly about lower taxes and smaller government, has proven difficult to characterize definitively.<sup>3</sup> The Occupy Wall Street movement proudly takes credit for changing the dialogue,<sup>4</sup> but has been criticized for offering no real alternatives.<sup>5</sup>

In this climate of domestic and global political instability, debates over natural resource extraction and conservation play out through highly fractured interest groups, heated or even vitriolic debate, and little appetite for

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1. STEPHEN KARCHER, TA CHUAN: THE GREAT TREATISE 142 (Dawn Henderson ed., 2000) (ancient Taoist text on how to use *I Ching* as a tool for spiritual divination, eventually incorporated into *I Ching*).

2. In 2010, 60.5 percent of Americans were forty-five years old or younger. LINDSAY M. HOWDEN & JULIE A. MEYER, U.S. CENSUS BUREAU, AGE AND SEX COMPOSITION: 2010, at 6 (May 2011), <http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>.

3. In part because of the decentralized nature of the movement, the goals of the Tea Party are the subject of some debate. For history and description by supporters of the Tea Party movement, see generally DICK ARMEY & MATT KIBBE, GIVE US LIBERTY: A TEA PARTY MANIFESTO (2010); JOHN M. O'HARA, A NEW AMERICAN TEA PARTY: THE COUNTERREVOLUTION AGAINST BAILOUTS, HANDOUTS, RECKLESS SPENDING, AND MORE TAXES (2010). For a more critical account, see generally JILL LEPORE, THE WHITES OF THEIR EYES: THE TEA PARTY'S REVOLUTION AND THE BATTLE OVER AMERICAN HISTORY (2010). Some evidence suggests that Tea Party supporters are more closely aligned with fundamentalist Christianity than with fundamentalist constitutionalism. See David E. Campbell & Robert D. Putnam, *Crashing the Tea Party*, Opinion, N.Y. TIMES, Aug. 17, 2011, at A23. Surveys show, however, that such a political platform is unpopular with the large majority of U.S. voters, see *id.*, and thus seems unlikely to present a real political alternative, at least in the near term.

4. Pohla Smith et al., *Occupy Members Ponder Their Next Move: Campers Must Leave BNY Mellon Green by Noon Today*, PITTSBURGH POST-GAZETTE, Feb. 6, 2012, at B-1; Caitlin MacLaren & Zoltan Gluck, *Occupiers' View: We're Already Changing Politics*, USA TODAY ONLINE, Nov. 16, 2011, <http://www.usatoday.com/news/opinion/story/2011-11-16/Occupy-Wall-Street-politics/51247362/1>.

5. See David Brooks, *The Milquetoast Radicals*, N.Y. TIMES, Oct. 10, 2011, at A27.

compromise. Here in West Virginia, as well as in Pennsylvania, New York, and elsewhere, proponents and opponents of drilling for natural gas from the Marcellus Shale have squared off at meetings in an especially contentious tussle of local and state politics.<sup>6</sup> In Morgantown, the city council banned horizontal drilling and hydraulic fracturing, concerned about the potential contamination of groundwater and inadequate disposal of “fracking” water.<sup>7</sup> Gas companies responded by taking the city to court and obtaining reversal of the ordinance.<sup>8</sup> The city, in turn, reconfigured its zoning ordinances regulating heavy industries to accomplish the same purposes.<sup>9</sup> Meanwhile, another gas

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6. The recent commercial viability of natural gas extraction methods like horizontal drilling and hydraulic fracturing (or “fracking”) mean that the natural gas trapped in this layer of shale can now be profitably extracted. The Marcellus Shale has been estimated to contain up to fifty trillion cubic feet of recoverable natural gas, which would have a wellhead worth of \$1 trillion. That amount would also be enough to supply the entire United States for two years. *See Marcellus Shale—Appalachian Basin Natural Gas Play*, GEOLOGY.COM, <http://geology.com/articles/marcellus-shale.shtml> (last visited Oct. 6, 2012). Recently these claims have come under challenge. *See* Ian Urbina, *New Report by Agency Lowers Estimates of Natural Gas in U.S.*, N.Y. TIMES, Jan. 29, 2012, at 16.

7. MORGANTOWN, W.VA., ORDINANCE 721.01 (2011), repealed by Morgantown, W.Va., Ordinance 12-26 (July 2, 2012), available at <http://www.conwaygreene.com/Morgantown/lpext.dll?f=templates&fn=main-hit-h.htm&2.0> (last visited Oct. 27, 2012). Fracking a single well requires nearly as much water as an Olympic-sized swimming pool, while wells that require several fracking treatments can consume millions of gallons over their lifetime. *See* ANTHONY ANDREWS ET AL., CONG. RESEARCH SERV., R40894, UNCONVENTIONAL GAS SHALES: DEVELOPMENT, TECHNOLOGY, AND POLICY ISSUES 24 (2009), available at <http://www.fas.org/sgp/crs/misc/R40894.pdf>. This raises questions about water access as even Eastern states begin to feel the pressure of water shortages. *See generally* Richard F. Ricci et al., *Battles Over Eastern Water*, 21 NATURAL RES. & ENV'T 38 (2006). Even more critically, after the water is used to fracture the shale and allow recovery of the gas, fracking companies must find ways to dispose of hundreds of thousands of gallons of fracking wastewater containing both fracking chemicals such as hydrochloric acid (HCl), gelling agents, peroxydisulfate, silica flour, biocides, methanol, sodium thiosulfate and naturally-occurring radioactive particles. *See* ANDREWS, *supra* note 7, at 23.

8. *Northeast Natural Energy, LLC v. City of Morgantown*, No. 11-C-411, 2011 WL 3584376, at \*9 (W. Va. Cir. Ct. Aug. 11, 2011).

9. *See* Pam Kasey, *Morgantown Adopts New Zoning for Extractive Industries*, STATEJOURNAL.COM (July 4, 2012), <http://www.statejournal.com/story/18949807/morgantown-adopts-new-zoning-for-extractive-industries>; *see also* Morgantown, W.Va. City Council, meeting minutes (July 3, 2012), <http://www.morgantownwv.gov/wpcontent/uploads/070312-Minutes.pdf>. Zoning ordinances that restrict drilling, unlike Morgantown's previous ban on hydraulic fracturing, have been upheld by courts in New York. *See Cooperstown Holstein Corp. v. Town of Middlefield*, 943 N.Y.S.2d 722 (N.Y. Sup. Ct. 2012); *Anschutz Exploration Corp. v. Town of Dryden*, 940 N.Y.S.2d 458 (N.Y. Sup. Ct. 2012). The scope of local jurisdictions' constitutional right to enact zoning regulation has been a central issue in a pending legal challenge to a Pennsylvania law circumscribing such jurisdiction with relation to oil and gas development. *See Robinson Twp. v. Commonwealth of Pennsylvania*, 52 A.3d 463 (Pa. Commw. Ct. 2012) (appeal pending before Pennsylvania Supreme Court).

company withdrew its donation to the Morgantown Farmers' Market, with a statement that the company "focus[es] our philanthropy where natural gas production is supported by the community and its leaders."<sup>10</sup> Landowners near existing wells have claimed that their groundwater has been contaminated to toxic levels by fracking water,<sup>11</sup> a claim hotly contested by fracking companies and their lobbies.<sup>12</sup>

Farmers and other rural landowners, with much to gain through lucrative gas leases<sup>13</sup> and much to lose if concerns about water contamination prove valid,<sup>14</sup> have been in the center of the controversy, on both sides. In New York, hearings on an environmental proposal to lift a Marcellus Shale drilling moratorium have drawn thousands of people in two "hopelessly divided" sides.<sup>15</sup> In the Binghamton, New York, forum on November 17, 2011, an area

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10. See *Chesapeake Energy Withdraws Morgantown Donation* (WBOY-TV television broadcast Sep. 2, 2011) (on file with author).

11. See Amended Complaint at 2, 10, *Fiorentino v. Cabot Oil & Gas Corp.*, No. 3:09-CV-2284, 2010 WL 931974 (M.D. Pa. Mar. 5, 2010) (alleging breach of contract provisions relating to groundwater monitoring, protection, and remediation; also alleging protection of surface owners' enjoyment of property). A controversial documentary, *Gasland*, depicts landowners struggling to respond to what they claim to be groundwater contamination from fracking water. See *GASLAND* (HBO Documentary Films 2010). In one particularly incendiary scene, a homeowner in Colorado near a gas drilling site sets his drinking water on fire.

12. See, e.g., *Debunking Gasland*, ENERGY IN DEPTH (June 9, 2010), <http://eid2.kinesismarketing.com/2010/06/debunking-gasland/> (last visited Oct. 27, 2012); *Who We Are*, ENERGY IN DEPTH, [eid2.kinesismarketing.com/about/](http://eid2.kinesismarketing.com/about/) (last visited Aug. 15, 2012).

13. Laura Legere, *Boom Towns: Gas Drilling Quickly Changes Smalltown Life in Pa.*, THE TIMES-TRIBUNE, Oct. 25, 2009, <http://thetimes-tribune.com/news/boom-towns-gas-drilling-quickly-changes-smalltown-life-in-pa-1.362954>. Other sources suggest that the benefits to landowners may not be as substantial as equity would suggest, or might be outweighed by risks. See Ian Urbina & Jo Craven McGinty, *Learning Too Late of the Perils in Gas Well Leases*, N.Y. TIMES, Dec. 2, 2011, at A1.

14. Studies so far have yielded conflicting results. A 2011 study from Duke University found "systematic evidence for methane contamination of drinking water associated with shale-gas extraction" in northeast Pennsylvania and upstate New York. See Stephen G. Osborn et al., *Methane Contamination of Drinking Water Accompanying Gas-Well Drilling and Hydraulic Fracturing*, 108 PROCEEDINGS NAT'L ACAD. SCI. 8172, 8172 (May 17, 2011), available at <http://www.nicholas.duke.edu/cgc/pnas2011.pdf>. Preliminary findings from a study at the University of Texas, however, did not substantiate concerns about groundwater contamination from the drilling process, but suggested that disposal of fracking sites appeared to have more problems on the surface than other types of drilling, including spills of drilling and fracking fluids and leaks from wastewater pits. See Tom Fowler, *Dividing 'Fact From Fiction': So Far, Study on Water Clears Fracturing*, HOUS. CHRON., Nov. 9, 2011, at D1. Other reports have pointed to problems related to wastewater treatment and disposal. See Ian Urbina, *Gas Wells Recycle Water, but Toxic Risks Persist*, N.Y. TIMES, Mar. 2, 2011, at A1.

15. Steve Reilly, *Fracking Regulations: DEC's Latest Script Produces High Drama at Binghamton Forum*, PRESSCONNECTS.COM (Nov. 17, 2011), <http://www.pressconnects.com/apps/pbcs.dll/article?AID=2011111170412>.

assemblywoman “was one of the few who straddled the fence,” recognizing the strong opinions on both sides of the issue.<sup>16</sup> Most of the comments were polarized. A county legislator, farmer, and former teacher was quoted by reporters as urging gas development to save rural communities and families: “Our farms are shutting down and being sold to speculators. Our rural areas, quite frankly, are becoming wastelands.”<sup>17</sup> A Pennsylvania homeowner suing a gas company claimed his well water had been contaminated for three years.<sup>18</sup> A spokesman for a New York Landowners’ Coalition countered that the claims of well damage from drilling had proven upon investigation to be overblown.<sup>19</sup> A Cooperstown woman, complaining of the proposed ban on drilling around New York City and Syracuse, held up photos of her children and asked, “What’s the difference between New York City kids and my kids?”<sup>20</sup>

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Inauspiciously into this angry, fractious, grief-ridden world, an idea was born to save us. Its name, “sustainable development,” is unwieldy and vague, though not without a certain poetic rhythm. Its claim is grand: in our collective struggle to live and live well and live fairly and live within our means, sustainable development will be The Grand Unifier. Instead of promoting the few at the expense of the many, sustainable development will give us that proverbial, elusive rising tide. Instead of increasing our wealth without regard to the health of the Earth, sustainable development will teach us we can serve both masters. Instead of conserving ecosystems while human beings are wasted, sustainable development will be the heartbeat of the symbiotic relationship in which humankind fares as well, and only as well, as the Earth it lives on.

With glorious ramparts and sighs of relief, many lawmakers, activists, and scholars have embraced the good news about sustainable development. Sustainable development replaced environmental conservation as the focal point of international environmental law at the Rio Summit in 1992 and still held that position in Johannesburg two decades later.<sup>21</sup> Further displacing the

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16. *Id.*

17. *Hydrofracking Debated at Hearing in Binghamton*, SYRACUSE.COM (Nov. 18, 2011, 12:31 AM), [http://www.syracuse.com/news/index.ssf/2011/11/hydrofracking\\_debated\\_at\\_heari.html](http://www.syracuse.com/news/index.ssf/2011/11/hydrofracking_debated_at_heari.html) [hereinafter *Hydrofracking Debated*].

18. *Id.*; see also Amended Complaint at 2, 10–11, *Fiorentino v. Cabot Oil & Gas Corp.*, 3:09-CV-2284, 2010 WL 931974 (M.D. Pa. March 5, 2010).

19. *Hydrofracking Debated*, *supra* note 17.

20. *Id.*

21. United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/5/Rev.1 (Sept. 28, 1992); Rep. on the World Summit on Sustainable Dev., Johannesburg, S. Afr., Aug. 26–Sept. 4, 2002, *Johannesburg Declaration on Sustainable*

international environmental law paradigm, sustainable development has provided the foundation for the United Nation's Millennium Development Goals.<sup>22</sup> Domestically, sustainability is the buzzword for new coalitions and interest groups<sup>23</sup> and a bestseller label for new federal laws in energy, agriculture, transportation, city planning, and beyond.<sup>24</sup> Legal scholars have used the term "sustainable development" and combinations of the phrase "environmentally sustainable" in 364 law review article titles since the phrase was popularized by the Brundtland Commission in 1987.<sup>25</sup>

But no savior goes unchallenged for long. Like a career politician, sustainable development has been decried for appealing to everyone by standing for nothing. Even before the Rio Summit promoted sustainable development, a United Nations body argued that the concept risked becoming an excuse for policymakers to avoid facing difficult decisions about income redistribution and population stability: "If the concept of sustainable development becomes a verbal formula for glossing over these harsh realities then it will have been a big step backwards."<sup>26</sup> Summarizing a litany of objections against sustainable development, one scholar noted that the concept has been criticized as "vague, slippery, oxymoronic, a 'mask[er] [of] failed consensus,' and a reflection of political correctness," and that its "amorphous nature . . . saps it of much of the normative power it might otherwise have."<sup>27</sup>

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*Development*, U.N. Doc. A/CONF.199/20, Annex PP 5, 11 (Sept. 4, 2002). *But see* Marc Pallemarts, *International Environmental Law in the Age of Sustainable Development: A Critical Assessment of the UNCED Process*, 15 J.L. & COM. 623, 673-74 (1996) (criticizing shift from focus on environmental law to sustainable development).

22. Gillian MacNaughton & Diane F. Frey, *Decent Work, Human Rights, and the Millennium Development Goals*, 7 HASTINGS RACE & POVERTY L.J. 303, 333 (2010).

23. *See, e.g.*, NATIONAL SUSTAINABLE AGRICULTURE COALITION, <http://sustainableagriculture.net/>; NGO SUSTAINABILITY, INC., <http://unningsustainability.org/>; SUSTAINABLE DEVELOPMENT ISSUES NETWORK, <http://www.sdin-ngo.net>.

24. *See, e.g.*, Sustainable States Act of 2011, H.R. 3242, 112th Cong. (1st Sess. 2011); Sustainable Water Infrastructure Act of 2011, S. 939, 112th Cong. (1st Sess. 2011); Securing America's Future with Energy and Sustainable Technologies Act, S. 559, 112th Cong. (1st Sess. 2011).

25. Search in Westlaw, Journals and Law Reviews database, for query "ti('sustainable development') ti(sustainability /3 environment!) & da(aft 1986)" (search conducted Feb. 8, 2012).

26. *See* DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 153-54 (4th ed. 2011).

27. Robert L. Glicksman, *Sustainable Federal Land Management: Protecting Ecological Integrity and Preserving Environmental Principal*, 44 TULSA L. REV. 147, 148 (2008) (internal citations omitted). For just a few examples of such criticism, see Hari M. Osofsky, *Defining Sustainable Development After Earth Summit 2002*, 26 LOY. L.A. INT'L & COMP. L. REV. 111, 111 (2003) ("Despite having chaired this panel, however, I left it still not quite sure precisely what sustainable development is and where it stands. I am not alone in this sense of uncertainty."); Daniel C. Esty, *A Term's Limits*, FOREIGN POL'Y, 74-75 (Sept.-Oct. 2001)

Scholars have debated the causes for the failure of sustainable development so far to articulate a coherent set of norms distinct from a welfare economics theory of the state. Douglas Kysar has suggested that such failure may be either endemic, driven by the “incompatibility between [the] paradigm and that of the market-liberal order,”<sup>28</sup> or developmental, resulting from the (strategic) lack of specificity in a concept that “allows various parties with potentially conflicting agendas to coexist under the same big tent.”<sup>29</sup> Kysar has called for a “thicken[ing]” of the concept “to promote an acculturation process that has real normative bite,”<sup>30</sup> and more than one scholar has offered proposals to do so.<sup>31</sup> Others have criticized sustainable development as the wrong theory,<sup>32</sup> while still others have argued we would be better served by abandoning theory altogether.<sup>33</sup>

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(“sustainable development has become a buzzword largely devoid of content . . . [a] concept [that] provides little policy traction”); David R. Hodas, *The Role of Law in Defining Sustainable Development: NEPA Reconsidered*, 3 WIDENER L. SYMP. J. 1, 4–5 (1998) (“a skeptic very well might describe the rapid, universal adoption of the language of sustainable development as simply a brilliant, politically expedient compromise between the forces of economic growth and those of environmental protection”); Susan L. Smith, *Ecologically Sustainable Development: Integrating Economics, Ecology, and Law*, 31 WILLAMETTE L. REV. 261, 277 (1995) (“the Brundtland Report’s definition is so vague that one cannot even discern from it the conceptual connection between sustainable development and the finite carrying capacity of the Earth’s ecological systems and natural resources”); David A. Wirth, *The Rio Declaration on Environment and Development: Two Steps Forward and One Back, or Vice Versa?*, 29 GA. L. REV. 599, 607 (1995) (“There is no international consensus on the meaning of ‘needs,’ a fundamental component of the definition on which perspectives may vary around the globe.”); Marc Pallemerts, *International Environmental Law from Stockholm to Rio: Back to the Future?*, 1 REV. EUR. COMMUNITY & INT’L ENVTL. L. 254, 261 (1992) (“It is not surprising that such a concept [as sustainable development] has received widespread support from leaders of the North and South alike, environmental and Third World movements, international bureaucrats and enlightened managers of financial and economic institutions and structures in both capitalist and socialist countries. This is explained by the artful vagueness which the new paradigm of ‘sustainable development’ casts upon their respective responsibilities.”).

28. Douglas A. Kysar, *Sustainable Development and Private Global Governance*, 83 TEX. L. REV. 2109, 2117 (2005).

29. *Id.* at 2117–18.

30. *Id.* at 2118 n.51.

31. See, e.g., Rebecca M. Bratspies, *Rethinking Decisionmaking in International Environmental Law: A Process-Oriented Inquiry into Sustainable Development*, 32 YALE J. INT’L L. 363, 364–65 (2007) (considering New Haven School’s “process-oriented jurisprudence” to guide sustainable development theory); John C. Dernbach, *Achieving Sustainable Development: The Centrality and Multiple Facets of Integrated Decisionmaking*, 10 IND. J. GLOBAL LEGAL STUD. 247, 248–49 (2003) (identifying integrated decisionmaking as a central tenet of sustainable development and articulating specific policy tools to implement it); Sanford E. Gaines, *Reflexive Law as a Legal Paradigm for Sustainable Development*, 10 BUFF. ENVTL. L.J. 1, 2 (2002–2003) (proposing German concept of “reflexive law” as a model for sustainable development).

32. See, e.g., James C. Kraska, *Global and Going Nowhere: Sustainable Development, Global Governance & Liberal Democracy*, 34 DENVER J. INT’L L. & POL’Y 247, 248 (2006)



The appeal of sustainable development is precisely that “big tent,” spacious enough to accommodate three usually disparate factions—development proponents, environmental groups, and social justice advocates. Christopher Stone has pointed out that sustainable development may be useful to highlight some easy cases—cases in which a single policy advantages all interest groups, or at least where a policy that benefits one will not burden others.<sup>34</sup> Perhaps sustainable development is merely code name for a more sophisticated algorithm that better measures costs and identifies “win-win-win” situations that were previously not apparent.<sup>35</sup> If so, sustainable development would be an indispensable policymaking tool.

But if sustainable development is to be a transformative paradigm, it must provide more than a reminder to look for situations where everyone wins. As Stone acknowledges, policymakers are also faced with situations where any policy choice will produce losers as well as winners.<sup>36</sup> Stone notes that indifference curves can be used to express social trade-offs between values like efficiency and fairness,<sup>37</sup> but this is likely to be of little comfort to those whose personal preferences do not match the collective curve. Inevitably, decisions in such cases (even the utilitarian decision to do the greatest good for the greatest number) must be informed by normative, as well as quantitative, considerations. Where there is no way to improve quality of life for all people, benefiting all values, what should society choose?

Here is the ultimate challenge for sustainable development, and the reason that many commentators have denounced it. Not all situations will produce a win-win-win policy choice. Differences, even polarities, in group values and preferences will always exist. How can sustainable development offer some magic formula in which a previously win-lose situation suddenly produces a win-win? If it claims to, can it be doing so by any means other than oppressing or destroying the values of one group and arrogantly declaring a “solution”?

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(arguing that focus on democracy-building better achieves goals of economic growth and environmental protection than global governance model of sustainable development).

33. See, e.g., Robert F. Blomquist, *Against Sustainable Development Grand Theory: A Plea for Pragmatism in Resolving Disputes Involving International Trade and the Environment*, 29 VT. L. REV. 733, 733 (2005) (criticizing efforts to theorize sustainable development and calling instead for more pragmatic “mood” in sustainability decision-making).

34. Christopher D. Stone, *Deciphering “Sustainable Development”*, 69 CHI.-KENT L. REV. 977, 979–81 (1994).

35. This understanding of sustainable development has been described in the legal literature by J.B. Ruhl, *Sustainable Development: A Five-Dimensional Algorithm for Environmental Law*, 18 STAN. ENVTL. L.J. 31, 37, 52 (1999), and is at the heart of the new “science of sustainability”; see Luís M.A. Bettencourt & Jasleen Kaur, *Evolution and Structure of Sustainability Science*, 108 PROC. NAT’L ACAD. SCI. 19540, 19540 (Dec. 6, 2011) (empirically validating emergence of “sustainability science” as distinct scientific discipline around 2001).

36. Stone, *supra* note 34, at 981.

37. *Id.*

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In 1992, the same year as the Rio Summit, Rodney King tearfully asked if we could “all get along,”<sup>38</sup> and that prayer sounds just as compelling today—and just as poignantly naïve. We live in a time of unprecedented wealth, and unprecedented disparity between rich and poor;<sup>39</sup> of unprecedented technological advances, and unprecedented rate and scale of environmental degradation.<sup>40</sup> In this high-stakes game, is it really possible to resolve the differences between disintegrated, even fractious, interests groups with widely divergent priorities to form a single, coherent normative theory for evaluating policy?

No. The first thesis of this Essay is that it is not possible to resolve these differences or to formulate a normative policy principle out of the concept of sustainable development. Development proponents will always believe that wealth-generation to relieve poverty, especially severe poverty, has moral priority over resource conservation. Environmentalists will always believe that a singular focus on wealth-building is myopic, unnecessary, and ultimately catastrophic. Social justice advocates will always believe that nothing can be morally defensible that places disproportionate burdens on some peoples, especially the world’s poorest. And sustainable development, as a concept, does not offer a “tie-breaker” principle where predicted outcomes are less than optimal across every category.

But the second, and more important, thesis of this Essay is that it does not matter whether we can resolve these differences. Tempting though it may be to write the obituary of sustainable development, the fundamental intractability of the interests within its “big tent” does not mean that the concept is bankrupt. Western culture, at least since the Enlightenment ascendancy of reason and science, defaults to a demand for rational relationships and linear connections

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38. Peter Gelzimis, *Amid Fear and Madness, Victim Speaks for Sanity*, BOSTON SUNDAY HERALD, May 3, 1992, at 4.

39. In its 2011 report entitled *Income, Poverty, and Health Insurance Coverage in the United States: 2010*, the US Census Bureau reported that the top five percent of income earners earned twenty-one percent of all income that year. CARMEN DENAVAS-WALT ET AL., U.S. CENSUS BUREAU, INCOME, POVERTY, AND HEALTH INSURANCE COVERAGE IN THE UNITED STATES: 2010, at 11 (2011), available at <http://www.census.gov/prod/2011pubs/p60-239.pdf>. Perhaps even more startling is that the top twenty percent of wage earners earned almost as much (49.3%) as the remaining eighty percent combined (50.8%). *Id.*

40. For example, a recently released report on carbon emissions states that, despite the effort towards reducing carbon footprints, carbon emissions rose 5.9 percent in 2010. According to the report, that was the largest absolute increase since the industrial revolution and the largest percentage increase since 2003. Justin Gillis, *Global Carbon Dioxide Emissions in 2010 Show the Biggest Jump Ever Recorded*, N.Y. TIMES, Dec. 5, 2011, at A4.

between cause and effect, end and means, starting point and end point.<sup>41</sup> Rationalism's insistence on an objective reality prior to experience leads to the view that "the world is a rationally ordered whole, the parts of which are linked by logical necessity and the structure of which is therefore intelligible."<sup>42</sup> Sustainable development (at least in the difficult cases described by Stone) is frustrating to Western legal scholars because it defies this model. It offers no rationally discernable relationship between Point A (intractable, even warring factions) and Point B (harmonious policy-setting and effective implementation).

Few today would deny the limits of rationalism, especially as an impenetrable boundary on theories of political life. Nietzsche spearheaded the postmodern rejection of rationalism, arguing instead that political rationalism leads to human degeneration because it lacks any account for or response to the inevitable tragedy of life and the ultimate tragedy of death.<sup>43</sup> Nietzsche urged instead that we "dare to be tragic men,"<sup>44</sup> fully open to the sorrows and tragedies, as well as the ineluctable joys, of life. For Nietzsche, it was the tragedy of Sophocles's *Oedipus*, not the optimistic rationalism of Socrates, that signaled the greatest hope for man's salvation.<sup>45</sup>

The project of sustainable development, at heart, calls to mind the tragedy of human life and death. The goal of sustainable development appears optimistic, insofar as its purpose is to challenge the notion that improvement of the human condition must always be a zero-sum game, trading off man-for-man or man-for-mankind or mankind-for-Earth.<sup>46</sup> But the project would be

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41. Encyclopedia Britannica describes rationalism as "the philosophical view that regards reason as the chief source and test of knowledge. Holding that reality itself has an inherently logical structure, the Rationalist asserts that a class of truths exists that the intellect can grasp directly." ENCYCLOPEDIA BRITANNICA 640 (15th ed.). Rationalism was derived from the Platonic idea of Forms, see PLATO, *Timaeus*, in THE DIALOGUES OF PLATO 450 (Benjamin Jowett trans. 1952), and developed in the seventeenth and eighteenth centuries by philosophers including Rene Descartes and Immanuel Kant, respectively. See generally DESCARTES, DISCOURSE ON THE METHOD OF RIGHTLY CONDUCTING THE REASON, AND SEEKING TRUTH IN THE SCIENCES (1850); IMMANUEL KANT, CRITICK OF PURE REASON (1838); see also RICHARD RORTY, PHILOSOPHY AND THE MIRROR OF NATURE (1979).

42. ENCYCLOPEDIA BRITANNICA, *supra* note 41, at 527.

43. See FRIEDRICH NIETZSCHE, BEYOND GOOD AND EVIL 118 (Walter Kaufmann trans. 1989); FRIEDRICH NIETZSCHE, THE BIRTH OF TRAGEDY 105–25 (Walter Kaufmann trans., 1967); Friedrich Nietzsche, *Thus Spoke Zarathustra*, in THE PORTABLE NIETZSCHE 103, 128–30 (Walter Kaufmann trans., 1954).

44. NIETZSCHE, THE BIRTH OF TRAGEDY, *supra* note 43, at 136.

45. See *id.* at 17–18, 67–70; Friedrich Nietzsche, *Twilight of the Idols*, in THE PORTABLE NIETZSCHE, *supra* note 43, at 473–74.

46. Or, perhaps, womankind-for-mankind. See, e.g., Nancy Perkins, *The Fracturing of Place: The Regulation of Marcellus Shale Development and the Subordination of Local Experience*, 23 FORDHAM ENV'L L. REV. 44 (2012) (feminist sustainable development critique of

unnecessary without a Nietzschean recognition of the tragic fact of human life: that it can and will be taken away, sometimes in pieces and, ultimately and inevitably, in its entirety. Politics of any stripe (sustainable development not excepted) stems from the human need to contain the vagaries of nature, whether the threat be from Mother Nature in the form of droughts, floods, winds, or pestilence; from other human beings in the form of assault or repression; or from some combination of the two, in the form of limited resources, limited knowledge of how to utilize them, and unlimited human fear and insecurity.

Yet, as Nietzsche recognized, the politics of reason ironically forces us into direct confrontation with reason's limits. Sophocles presented Oedipus as a model of the tragedy of ignoring the limits of rationalism as a political ideology. As Peter Ahrens Dorf has written, "reason requires us human beings to accept our mortal nature and the terrible fragility which that nature imposes on us. . . . Through the case of Oedipus, Sophocles suggests that such an austere resignation, which calls on us to deny our greatest hopes, is simply beyond the reach of virtually all humans."<sup>47</sup> Because none of us relinquishes our treasures gladly, we all share Oedipus' desire to impose order on the world through intellect, and thus stand forewarned by his failure.<sup>48</sup>

The Oedipal limits of rationalism, then, invite us to consider whether sustainable development might be theorized from a non-rationalist perspective, as a moral ordering force beyond political rationalism.<sup>49</sup> Indeed, there may be another explanation, aside from its convenient malleability, that sustainable development has attracted so many disciples. Many great philosophical and theological traditions recognize, even celebrate, the notion of opposing forces forming one cohesive whole greater than the sum of the parts. In these traditions, the goal is not to eliminate differences, nor to identify and subordinate "bad" forces to good ones. While such traditions frequently describe a process through which some form of transformation from a state of conflict to a state of harmony occurs, that transformative process does not depend upon the "victory" of one position over others, or the reduction or

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controls on local regulation of shale gas drilling); *see generally* ROSI BRAIDOTTI ET AL., WOMEN, THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (1994).

47. Peter Ahrens Dorf, *The Limits of Political Rationalism: Enlightenment and Religion in Oedipus the Tyrant*, 66 J. POL. 773, 784 (2004).

48. *See* Arlene Saxonhouse, *The Tyranny of Reason in the World of the Polis*, 82 AM. POL. SCI. REV. 1261, 1272–73 (1988).

49. Even if rationalism has limits as a political organizing theory, it may nonetheless deserve defense as a part of human moral epistemology. For example, Ahrens Dorf draws from Sophocles' tale of Oedipus an important distinction between the limits of rationality as a basis for government (which failed Oedipus) and abandonment of rationality as an individual moral ordering system (in which Oedipus failed his wife and daughter by exacerbating their plights). *See* Ahrens Dorf, *supra* note 47, at 790–98.

elimination of factions or the tensions between them. Instead, tension and opposition are seen as energizing forces that, with the correct attitude (described variously as consciousness, surrender, faith), actually drive the body toward realization of its full potential. This concept has been called “the Way”<sup>50</sup> by Taoists and “the reconciliation of opposites” by Carl Jung.<sup>51</sup>

This Essay proposes a shift to the terms of the debate about sustainable development. Instead of demanding that sustainable development describe a rational progression from division to unity among the various stakeholders to natural resource use, stakeholders might begin to explore these and other great intellectual traditions (traditions more established than Enlightenment rationalism, in many cases) for instructive, non-rationalist concepts with which to guide our aspirations to transformation through sustainable development. In light of millennia of experience, these traditions could offer examples through which sustainable development might become more than mere “glossing over” of differences, and instead become a tool for bringing those differences (persist though they will) into right relationship.

Such an exploration, while outside the norm for legal scholarship, is not unique. Other scholars primarily concerned with political and socio-political relations have similarly called for a loosening of the stranglehold of rationalism in evaluating methods of ontological understanding and political decision-making.<sup>52</sup> This trend suggests that sustainable development, no less than other forms of politics, might benefit from a re-evaluation of assumptions derived from rationalist approaches to law and politics and of the conscious recognition of the creative potential of forces that cannot be fully comprehended through rationalism.<sup>53</sup>

This Essay offers a preliminary contribution to that exploration, beginning with a look at the concepts of ego and shadow as articulated in analytical

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50. See *infra* note 99 and accompanying text.

51. See *infra* note 146 and accompanying text.

52. See, e.g., Ash Amin and Ronen Palan, *Towards a Non-Rationalist International Political Economy*, 8 REV. INT'L POL. ECON. 559 (2001) (re-evaluating international political economy's primary assumptions based on non-rationalism); Frederick D. Provenza, *Science, Myth, and the Management of Natural Resources*, 22 RANGELANDS 33 (2000) (calling for unification of reductionist science, systems science, and compassion in natural resource management). Critical Legal Studies scholars have been particularly instrumental in challenging the influence of rationalism on legal thought, drawing on the work of philosopher Ludwig Wittgenstein, anthropologist Clifford Geertz, and post-structuralists like Jacques Derrida and Michel Foucault. See Joan Williams, *Critical Legal Studies: The Death of Transcendence and the Rise of the New Langdells*, 62 N.Y.U. L. REV. 471–91 (1987).

53. One might fairly question whether a political theory like sustainable development, thus recharacterized, may still qualify as political theory. While an essay of this scope can only begin to respond to such an ontological question, the persistence of “the eternal suffering” as well as “the infinite primordial joy of existence,” in Nietzsche's words, invites a purposeful reconsideration of whether the realm of politics must or should be bounded by rationalism.

psychology. As a Westerner, Jung forms a useful intermediary between us, heavily grounded as we are in the rule of reason, and non-rationalist notions of duality and opposition developed in Eastern thought.<sup>54</sup> By examining the roles of ego and shadow in Jung's description of individuation, we can begin to extrapolate a new understanding of the possible relationships between the various "characters"—economic-development proponent, conservationist, social-justice advocate—that show up in the debates over sustainable development.

From this bridge of analytical psychology, this Essay expands to explore the ways that the reconciliation of opposites has been described within Taoism. *Tao*, or "the Way," can be understood as the union of irreconcilable forces into a whole that is constructive rather than destructive. Taoism is based on this non-rationalist understanding of existence, lending further fodder for consideration of the possible creative potential of sustainable development. Taoism suggests that such potential may exist not in spite of, but because of, sustainable development's irreconcilable interests. Taoism, like analytical psychology, rests on the persistence of the tensions, thus cautioning against the rationalist temptation to "resolve" those tensions through domination of any one priority.

These traditions—analytical psychology, informed by Taoism—offer a model for dealing with the tension between opposites presented by sustainable development. That model requires a departure from intuitive, rationalist ways of thinking that ordinarily dominate Western legal thought. But if sustainable development can be understood as more than a more complex algorithm to identify the win-win situations—if it can be understood to offer us a way through those intractable conflicts that admit of no rational resolution—then perhaps such a departure from rationalism is precisely where sustainable development is pointing us.

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Much of the frustration about sustainable development comes from the irreconcilability of the viewpoints involved. Commentators sympathetic to one camp, or simply frustrated with the inability of the camps to find common ground, throw up their hands and declare sustainable development an empty and meaningless conceit used to whitewash the continued domination of the powerless by the powerful.<sup>55</sup> But in intellectual and theological traditions less

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54. In fact, Jung literally played this role of intermediary, writing a foreword to the first German translation of the *I Ching* to attempt philosophical (rather than merely literal) accuracy. The translation, by Richard Wilhelm, was translated to English a few years later. See *infra* note 155 and accompanying text.

55. For example, Marc Pallemmaerts undertook an accounting of the relative fates of international environmental law and international economic law under the 1992 Rio Declaration,

dominated by rationalism, the persistence of opposing forces is seen not as cause for abandoning the paradigm, or even as a challenge to be overcome. Instead, opposites are an essential fact of nature, and recognition of this essentiality is the very means through which one can pass beyond the war of opposites and on to a third way—neither victory nor defeat, but the absence of struggle.

The tension between opposites in the theory of sustainable development is the opposite of our usual understanding of opposites in the legal system, and thus presents a challenge with which the law is unfamiliar. By seeking to spring the trap of the zero-sum game created by decades of resourcism versus environmentalism, the theory of sustainable development essentially posits that economic development, environmental conservation, and social integrity are mutually reinforcing. Thus any differences between these priorities cannot be reconciled away without destroying the concept—and yet, in application, the priorities often seem ineluctably competing and contradictory. In contrast, many foundational legal principles anticipate and embrace the eradication of opposites (at least officially), resolving tensions between competing priorities for the sake of maintaining the social order. Constructs like the adversary system (in which one priority is privileged over another by the force of the sovereign) and legislation (in which one priority is chosen over another through a process that, ideally, all citizens would have agreed to from behind a veil of ignorance), offer little guidance for implementation of sustainable development, in which no priority can coherently be privileged over another. In a sense, sustainable development privileges irreconcilability rather than resolution of tensions between priorities. It should come as little surprise that policymakers find the concept difficult to analogize to existing models of political implementation.

Jung, a psychologist, explored the relationship between opposites at the level of the individual. In Jung's analytical psychology, the primary means of entering into this play of opposites is through what he called the shadow.<sup>56</sup> According to Jung, "the shadow personifies everything that the subject refuses to acknowledge about himself and yet is always thrusting itself upon him

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which enshrined the principle of sustainable development in the international lawmaking discourse. See Pallemmaerts, *supra* note 21, at 630–35. Pallemmaerts traced evidence of "ideological slippage" from the Brudtland Commission's recognition of economic growth as an element of sustainable development, to the Rio Declaration's attempts to equate sustainable development with economic growth for all nations. *Id.* Pallemmaerts sees (or at least foresees) winners and losers: "The legal consequences of this ideological slippage may well prove to be, ultimately, neither more nor less than a recognition of the primacy of international economic law, and, more specifically, of international trade law, over international environmental law." *Id.* at 634.

56. See C.G. Jung, *AION: RESEARCHES INTO THE PHENOMENOLOGY OF THE SELF* (vol. 9 part 2 *THE COLLECTED WORKS OF C.G. JUNG*) (Sir Herbert Read et al. eds., R.F.C. Hull trans., 1959) ¶ 13, ¶ 513 [all volumes hereinafter *COLLECTED WORKS*].

directly or indirectly—for instance, inferior traits of character and other incompatible tendencies.”<sup>57</sup> Jung described the individual as consisting of a consciousness, called the ego, and of an unconscious.<sup>58</sup> The unconscious consists of both contents acquired during the individual’s lifetime (the “personal unconscious”) and contents unrelated to individual experience that are universal in the human psyche (the “collective unconscious”).<sup>59</sup> What Jung called the shadow, or personal unconscious,<sup>60</sup> was the remnant in “civilized” man of what had appeared in more “primitive” cultures<sup>61</sup> and mythologies as “the trickster,” a troublemaking fool sort of character.<sup>62</sup> “Civilized” man, Jung observed, is “no longer aware that in carnival customs and the like there are remnants of a collective shadow figure which prove that the personal shadow is in part descended from a numinous collective figure.”<sup>63</sup> In modern man, the shadow is usually denied, and its evidence (gaffes, slips, and faux pas) are attributed to “defects of the conscious personality.”<sup>64</sup>

The shadow presents peculiar moral challenges for the individual. According to Jung, the shadow represents the dark side of our natures, a side we normally seek to suppress.<sup>65</sup> As the personal unconscious, the shadow is primarily emotional in character, beyond the conscious control of the individual.<sup>66</sup> When acting from the shadow, the individual is “not only the passive victim of his affects but also singularly incapable of moral judgment.”<sup>67</sup> Jung was confident that, with some effort, certain aspects of an individual’s shadow could be made conscious.<sup>68</sup> More difficult are those

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57. 9.1 C.G. JUNG, *The Archetypes and the Collective Unconscious*, in COLLECTED WORKS ¶ 513 (Sir Herbert Read et al. eds., R.F.C. Hull trans., 1959).

58. See 9.2 COLLECTED WORKS, *supra* note 57, ¶ 1–2.

59. *Id.* ¶ 12. Jung describes the unconscious as “an omnipresent, unchanging, and everywhere identical *quality or substrate of the psyche per se.*” *Id.*

60. See 9.1 COLLECTED WORKS, *supra* note 57, ¶ 469.

61. In Jung’s work, the terms “primitive” and “civilized” appear to suggest hierarchy only insofar as they are used to mark the industrial progress of human civilization. Jung did not uncritically attribute positive attributes to European or industrialized culture. See, e.g., 10 C.G. JUNG, *Civilization in Transition*, in COLLECTED WORKS ¶¶ 444–57 (Gerhard Adler ed., R.F.C. Hull trans., 1970).

62. See 9.1 COLLECTED WORKS, *supra* note 57, ¶ 469. Jung describes the trickster through the alchemical figure Mercurius: “his fondness for sly jokes and malicious pranks, his powers as a shape-shifter, his dual nature, half animal, half divine, his exposure to all kinds of tortures, and—last but not least—his approximation to the figure of a saviour.” *Id.* ¶ 456.

63. *Id.* ¶ 469.

64. *Id.*

65. See 7 C.G. JUNG, *On the Psychology of the Unconscious*, in COLLECTED WORKS ¶ 103 n.5 (Sir Herbert Read et al. eds., R.F.C. Hull trans., 1959).

66. See 9.2 COLLECTED WORKS, *supra* note 57, ¶ 15.

67. *Id.*

68. *Id.*



aspects of the shadow that appear as “projections” onto others.<sup>69</sup> Since the unconscious, rather than the conscious, is doing the projecting, the individual appears to him or herself not to be acting at all.<sup>70</sup> “[I]n this case both insight and good will are unavailing because the cause of the emotion appears to lie, beyond all possibility of doubt, in the *other person*.”<sup>71</sup>

The relationship between ego (consciousness) and shadow (personal unconscious) is where the interplay of opposites is experienced at the level of the individual. Because the conscious ego “strives for clarity and demands unequivocal decisions,” Jung believed that the tendency of the ego is to push “incompatible contents” into the unconscious or shadow.<sup>72</sup> To Jung, this opposition is inevitable: “The conflict between the two dimensions of consciousness is simply an expression of the polaristic structure of the psyche, which like any other energetic system is dependent on the tension of opposites.”<sup>73</sup> Jung saw a regulative function in opposites: just as life consists of birth and death, day and night, which create each in relation to the other, so the psyche also compensates for the particularities in one facet of personality (such as the ego) by creating its opposite in another facet (the shadow).<sup>74</sup> Jung considered this to be one of the most fundamental psychological laws, which he referred to as the rule of enantiodromia (from the Greek *enantos*, or opposite, plus *dromos*, or quick movement).<sup>75</sup>

For analytical psychology, this opposition of ego and shadow is not so much a defect as an incredibly powerful opportunity for individuation. Jung stressed this point repeatedly. In a lecture on the subject of good and evil, Jung rejected the notion that good and evil are merely relative,<sup>76</sup> but cautioned psychologists against assuming that they can label an event as “good” or “evil” in a patient’s individual circumstances.<sup>77</sup> The problem, to Jung, was the paradox of human development: the “wrong” thing might be just what is needed for an individual’s growth, and therefore be “right”; conversely, the

69. *Id.* ¶ 16.

70. *Id.* ¶ 17.

71. See 9.2 COLLECTED WORKS., *supra* note 57, ¶ 16 (emphasis in original).

72. 14 C.G. JUNG, *Mysterium Coniunctionis*, in THE COLLECTED WORKS OF C.G. JUNG xvii (Herbert Read et al. eds., R.F.C. Hull trans., 1977).

73. 9.1 C.G. JUNG, *On the Psychology of the Trickster—Figure*, in THE COLLECTED WORKS OF C.G. JUNG, ¶¶ 456, 483 (Herbert Read et al. eds., R.F.C. Hull trans., 1968).

74. See Robert Avens, *The Image of the Devil in C.G. Jung’s Psychology*, 16 J. RELIGION & HEALTH 196, 198–99 (1977) (discussing how one-sided attitudes inevitably generate their opposites).

75. *Id.*; see also 11 C.G. JUNG, *Psychotherapists or the Clergy*, in THE COLLECTED WORKS OF C.G. JUNG ¶¶ 488, 526 (Herbert Read et al. eds., R.F.C. Hull trans., 2d ed. 1969) (“What we observe here is a fundamental law of life—enantiodromia or conversion into the opposite.”).

76. 10 C.G. JUNG, *Good and Evil in Analytical Psychology*, in THE COLLECTED WORKS OF C.G. JUNG ¶¶ 858, 866 (R.F.C. Hull trans., 2d ed. 1970).

77. *Id.* ¶¶ 862–71.

person who studiously avoids what is “wrong” never brings that action into “the content of his actual life and he does not know from what he needs to be saved.”<sup>78</sup> The solution, he suggested, was to be found in consciously experiencing *both* ego and shadow:

To confront a person with his shadow is to show him his light. Once one has experienced a few times what it is like to stand judgingly between the opposites, one begins to understand what is meant by the self. Anyone who perceives his shadow and his light simultaneously sees himself from two sides and thus gets in the middle.<sup>79</sup>

In comparing the shadow to the mythological character of the trickster, Jung again sees the regulating function of opposites as an opportunity for individuation. Analyzing the trickster myth in Native American and European history, Jung observes that the process of individuation seems to begin even within the trickster cycle itself.<sup>80</sup> In mythology, the trickster’s behavior gradually changes from “brutal, savage, stupid, and senseless,” to “quite useful and sensible.”<sup>81</sup> The afflicted shaman or medicine-man character as trickster even contains an “approximation of the saviour,” as “the sufferer takes away suffering.”<sup>82</sup> Moreover, while the shadow appears to be negative, it may embody useful traits: “It is as though he were hiding meaningful contents under an unprepossessing exterior.”<sup>83</sup>

Jung attributed the arrival of the savior, both in the trickster myth and in the shadow, as evidence that “some calamity or other has happened and been consciously understood”; in other words, that the shadow has been experienced (in all its horror) and integrated in the development of consciousness.<sup>84</sup> The trickster or shadow, fully experienced, contains its opposite and thus offers a path to it.<sup>85</sup>

Because of the enantiodromia between ego and shadow, Jung saw peril in any refusal to acknowledge the shadow, or in any attempt to eliminate the tensions created by recognizing one’s “good” qualities simultaneously with incompatible dark or shadow contents of one’s personality.<sup>86</sup> Ironically, the unwillingness to acknowledge and tolerate this tension only serves to further

78. *Id.* ¶¶ 866–68.

79. *Id.* ¶ 872.

80. See 9.1 COLLECTED WORKS, *supra* note 73, ¶¶ 470, 477 (discussing how the trickster cycle is a method by which the shadow changes).

81. *Id.* ¶ 477.

82. *Id.* ¶ 457.

83. *Id.* ¶ 485.

84. *Id.* ¶ 487.

85. 9.1 COLLECTED WORKS, *supra* note 73, ¶ 488 (“As in its collective, mythological form, so also the individual shadow contains within it the seed of an enantiodromia, of a conversion into its opposite.”).

86. *Id.* ¶ 477.

entrench the opposites, creating an ever-larger task for individuation. In the unconscious individual, Jung said, “[i]ncompatible contents either remain totally unconscious or are habitually and assiduously overlooked. The more this is so, the more the unconscious will build up its counterposition.”<sup>87</sup>

Moreover, Jung emphasized that the process of reconciliation of opposites is never complete—and was never meant to be. “One is inclined to think that ego-consciousness is capable of assimilating the unconscious, at least one hopes that such a solution is possible. But unfortunately the unconscious really is unconscious; in other words, it is unknown. And how can you assimilate something unknown?”<sup>88</sup> As one commentator explained, Jung insisted that the shadow could not be assimilated or removed, but that the individual has an ethical imperative to acknowledge and take responsibility for it, rather than continuing to project it:<sup>89</sup> “The demons, robbers, and nasty siblings who pursue us in dreams may be our secondary selves looking for a place at the table.”<sup>90</sup>

Rather than a method to eliminate opposites, the analytical process of activating and acknowledging the unconscious contents of the shadow, to Jung, is the middle way between domination by the ego (with the corollary of unconscious projection of shadow contents onto other people<sup>91</sup>) or falling under the spell of the shadow (as in the rise to power of Adolf Hitler<sup>92</sup>). The very acknowledgment of the tension creates the middle way:

Conscious and unconscious do not make a whole when one of them is suppressed and injured by the other. If they must contend, let it at least be a fair fight with equal rights on both sides. Both are aspects of life. Consciousness should defend its reason and protect itself, and the chaotic life of the unconscious should be given the chance of having its way too – as much

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87. 14 COLLECTED WORKS, *supra* note 73, at xvii.

88. 9.1 C.G. JUNG, *Conscious, Unconscious, and Individuation*, in THE COLLECTED WORKS OF C.G. JUNG ¶¶ 489, 520 (Herbert Read et al. eds., R.F.C. Hull trans., 1968).

89. See Sherry Salman, *The Creative Psyche: Jung's Major Contributions*, in THE CAMBRIDGE COMPANION TO JUNG 52, 67 (Polly Young-Eisendrath & Terence Dawson eds., 1997).

90. *Id.*

91. See 9.2 COLLECTED WORKS, *supra* note 57, ¶¶ 16–17 (discussing how the unconscious nature of projection makes it difficult to recognize).

92. 10 C.G. JUNG, *The Fight with the Shadow*, in THE COLLECTED WORKS OF C.G. JUNG ¶¶ 444, 455 (R.F.C. Hull trans., 2d ed. 1970) (Jung discusses falling under the spell of the shadow and its relationship to the personal unconscious he observed in his German patients between World War I and World War II: “In Hitler, every German should have seen his own shadow, his own worst danger. It is everybody’s allotted fate to become conscious of and learn to deal with this shadow.”); see also Avens, *supra* note 74, at 206 (discussing how the archetypal shadow can manifest through a leader that demonstrates all the qualities rejected or repressed by contemporary culture).

of it as we can stand. *This means open conflict and open collaboration at once. That, evidently, is the way human life should be.*<sup>93</sup>

This “union of conscious and unconscious contents” Jung referred to as the “transcendent function,” the rounding of the personality into one whole.<sup>94</sup>

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Jung’s theory of analytical psychology was highly influenced by another, much older tradition: Taoism.<sup>95</sup> Taoism, one of three major Chinese religions,<sup>96</sup> is said to originate with the writing of the *Tao Te Ching* by Lao-Tzu sometime between the sixth and third centuries B.C.E.;<sup>97</sup> the other major sacred text of Taoism is the *Chuang-tzu*, dating to the fourth century B.C.E.<sup>98</sup> Taoism describes a religious belief that centers around the concept of *Tao*, or “way,” but such beliefs are of a dynamic nature that cannot be reduced to a static set of doctrines or practices.<sup>99</sup> The Chinese character expressing *tao* is comprised of two ideograms—one representing the human, the other representing forward movement.<sup>100</sup>

The *Tao Te Ching*—translated more frequently than any book except the Bible<sup>101</sup>—is a brief text, consisting of just eighty-one verses, many of them just a few lines long.<sup>102</sup> Jung was led to the study of Taoism in 1918 while writing a book attempting to distinguish his views from those of Sigmund Freud and his colleagues,<sup>103</sup> and continued with later study of the *I Ching* and *The Secret of the Golden Flower*.<sup>104</sup> Jung began with the proposition that persons of

93. 9.1 COLLECTED WORKS, *supra* note 88, ¶ 522 (emphasis added).

94. *Id.* ¶ 524.

95. 15 C.G. JUNG, *Richard Wilhelm: In Memoriam*, in THE COLLECTED WORKS OF C.G. JUNG ¶¶ 74, 89–92, 96 (Herbert Read et al. eds., R.F.C. Hull trans., 1966).

96. See ISABELLE ROBINET, TAOISM: GROWTH OF A RELIGION 1 (Phyllis Brooks trans., 1997) (stating that the other two of the “three teachings” are Confucianism and Buddhism); see also MIRCEA ELIADE & IOAN P. COULIANO, THE ELIADE GUIDE TO WORLD RELIGIONS 237–38 (1991) (stating that the three religions vying for the hearts of the faithful were Taoism, Confucianism, and Buddhism).

97. ELIADE & COULIANO, *supra* note 96, at 235.

98. *Id.*

99. See JEANEANE AND MERV FOWLER, CHINESE RELIGIONS: BELIEFS AND PRACTICES 92–93 (2008) (Though *tao* simply means “way” and thus can be used in many different senses, “[i]n Taoism, that ‘way’ becomes ultimate—the *Way* of the universe, Reality at its ultimate, and existence as what emanates from that Reality and returns to it.”).

100. *Id.* at 92.

101. See LAO TZU, TAO TE CHING xvii (Victor H. Mair trans., 1998).

102. *Id.*

103. See C.G. JUNG, MEMORIES, DREAMS, REFLECTIONS 207–08 (Aniela Jaffé ed., Richard & Clara Winston trans., Vintage Books rev. ed. 1965); 6 C.G. JUNG, Psychological Types, in COLLECTED WORKS (Sir Herbert Read et al. eds., R.F.C. Hull trans., 1971).

104. See Harold Coward, Taoism & Jung: Synchronicity and the Self, 46 PHIL. EAST & WEST 477, 480 (1996).

different personality types (such as extrovert and introvert) needed to balance the forces within their personalities (internal or external-focused) with the opposite force to overcome narrowness.<sup>105</sup> Jung explained that he found expression of this principle in Taoism.<sup>106</sup> In his works, Jung discussed especially two principles of Taoism: the first was the understanding of the *Tao* as a middle way between opposites;<sup>107</sup> the second was the manifestation of the *Tao* through the opposing forces of *yin* and *yang*.<sup>108</sup>

*Tao* has been described as “the undifferentiated Void and potentiality that underpins all creation, immutable, unchanging, without form.”<sup>109</sup> In the *Tao Te Ching*, it is described:

Something mysteriously formed,  
Born before heaven and Earth.  
In the silence and the voice,  
Standing alone and unchanging,  
Ever present and in motion.  
Perhaps it is the mother of ten thousand things.  
I do not know its name  
Call it *Tao*.  
For lack of a better word, I call it great.<sup>110</sup>

*Tao* is described as that which precedes all creation, and is understood to be the font of the Taoist understanding of creation. Chapter 42 of the *Tao Te Ching* says:

The *Tao* begot one.  
One begot two.  
Two begot three.  
And three begot the ten thousand things.

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105. *Id.* at 478.

106. *Id.*

107. 6 COLLECTED WORKS, *supra* note 103, ¶ 358; Coward, *supra* note 104, at 478.

108. 6 COLLECTED WORKS, *supra* note 103, ¶ 366.

109. FOWLER & FOWLER, *supra* note 99, at 101.

110. LAO TSU, TAO TE CHING, Chapter 25 (Gia-fu Feng & Jane English trans., 1972) [hereinafter TAO TE CHING]. In 1990, Victor H. Mair published a new translation and renumbering of the *Tao Te Ching* based on a version of the text discovered by archaeologists in 1973 in Ma-wang-tui in Central China. See TZU, *supra* note 101, at xviii. The Mair translation renumbers former Chapter 25 as Chapter 69. Translation of the *Tao Te Ching* has been a challenge for Chinese scholars because of its terseness, lack of grammatical indications in the Chinese characters, and muddled transmission through a variety of commentators with varying political and philosophical views. As a result, the text has been “open to different literal, figurative or manipulative translations.” FOWLER & FOWLER, *supra* note 99, at 95. I defer on those issues to scholars qualified to argue them. Unless otherwise noted, the translations here are from the 1972 Feng & English translation.

The ten thousand things carry yin and embrace yang.  
They achieve harmony by combining these forces.<sup>111</sup>

As with any idea of the creator, *Tao* exists even before there is One. In Taoism, the “One” begotten by *Tao* is *ch’i* or *qi*, the cosmic energy from which all existence is created.<sup>112</sup> The “two” refers to *yin* and *yang*, the opposing life forces in pure cosmic potential form.<sup>113</sup> When *yin* and *yang* interact, they produce the “three,” what has been called “a third term that unites them perfectly” but exists before order, perhaps an “undifferentiated or embryonic condition of wholeness at the beginning.”<sup>114</sup> From this order comes the whole material world, with all its differentiation of forms and functions.<sup>115</sup> While *yin* and *yang* create all forms, they are unified in *Tao*, which runs through all things.<sup>116</sup>

As this creation story suggests, the notion of polarity, or opposites, is inherent in the inexhaustible formlessness of *Tao*. Because *Tao* is the ultimate ground and unity of all things, it therefore must contain all opposites. Chapter 34 of the *Tao Te Ching* says:

The great Tao flows everywhere, both to the left and to the right.  
The ten thousand things depend upon it; it holds nothing back.  
It fulfills its purpose silently and makes no claim.  
It nourishes the ten thousand things,  
And yet it is not their lord.  
It has no aim; it is very small.  
The ten thousand things return to it,  
Yet it is not their lord.  
It is very great.  
It does not show greatness,  
And is therefore truly great.<sup>117</sup>

This chapter tells us that the *Tao* and “the ten thousand things” are distinct—the latter the manifestation of all form, with its dualities and opposites, while the former is the indelible reality from which all forms, shapes

111. TAO TE CHING, *supra* note 110, ch. 42.

112. FOWLER & FOWLER, *supra* note 99, at 103.

113. *Id.*

114. N. J. GIRARDOT, MYTH AND MEANING IN EARLY TAOISM: THE THEME OF CHAOS (HUN-TUN) 59 (1988).

115. FOWLER & FOWLER, *supra* note 99, at 104.

116. *Id.*

117. TAO TE CHING, *supra* note 110, ch. 34.

and differences arise.<sup>118</sup> Yet those forms are inherently compatible because of the *Tao*, which nourishes and reclaims them.<sup>119</sup>

This notion of polarity also animates the Taoist view that “[n]ature proceeds by cyclical movement and that all natural processes proceed by the interplay of pairs of complementary opposites.”<sup>120</sup> Taoism recognizes the concept of linear progress, but only with respect to individual forms and events.<sup>121</sup> Reality itself proceeds in a cyclical fashion, constantly renewing and regenerating through variety of form and matter.<sup>122</sup> *Tao* itself is a cyclical process, with no beginning and no end.<sup>123</sup> *Tao* allows for differentiation of form, but that differentiation is more superficial than humans perceive.<sup>124</sup> As Chuang-Tzu explained, “*Tao* is obscured when men understand only one of a pair of opposites, or concentrate only on a partial aspect of being. Then clear expression also becomes muddled by mere word-play, affirming this one aspect, and denying all the rest.”<sup>125</sup>

The two that are begotten by the *Tao*, the *yin* and *yang*, reflect the centrality of opposites within *Tao*. In the *Tao Te Ching*, Lao-Tzu overturned conventional wisdom by advising the reader to prefer the passive to the active,<sup>126</sup> but through the concept of reversal he illustrated the complementary nature of those opposites. For Lao-Tzu, the choice of weak over strong, passive over active, is not merely a reaction against the human tendency to prefer strong over weak,<sup>127</sup> nor a clever attempt to use submission to conquer, and thus really a veiled preference for strength.<sup>128</sup> Instead, the choice of weak over strong depends on the natural reversal of opposing forces. As one scholar describes it, “[t]he reversal smashes the dichotomy of A and B; in preferring to be submissive the sage does not cease to be oriented towards strength, for he recognizes that surviving by yielding to a rising power is the road to victory over it when its climax is past.”<sup>129</sup>

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118. FOWLER & FOWLER, *supra* note 99, at 101; ROBINET, *supra* note 96, at 83 (as the source of creation, *Tao* “encompasses all oppositions. It can be both large and small, revealed and hidden, flexible and rigid . . . , wide and deep, horizontal and vertical, present or absent.”).

119. FOWLER & FOWLER, *supra* note 99, at 101.

120. Frederic L. Bender, *Sagely Wisdom and Social Harmony: The Utopian Dimension of the Tao Te Ching*, 1 UTOPIAN STUDIES 123, 128 (1990).

121. ROBINET, *supra* note 96, at 14.

122. *Id.* at 14–15.

123. FOWLER & FOWLER, *supra* note 99, at 104–05.

124. *Id.*

125. THOMAS MERTON, *THE WAY OF CHUANG TZU* 42 (New Directions, 1969).

126. See A.C. GRAHAM, *DISPUTERS OF THE TAO: PHILOSOPHICAL ARGUMENT IN ANCIENT CHINA* 223–24 (1989).

127. *Id.* at 227–28.

128. *Id.* at 230.

129. *Id.* at 228–29.

Jung's understanding of the personality was deeply influenced by (or at least confirmed by) his study of Taoism.<sup>130</sup> Jung saw the *Tao* as an "irrational union of opposites,"<sup>131</sup> an attitude that preserves opposition while freeing the individual from the force of their conflict.<sup>132</sup> To Jung, discovery of the Chinese concept of *Tao* provided the missing link for his own theory of the personality that Western culture had never devised a concept to explain.<sup>133</sup> In Jung's view, the *Tao* provided the model for a process of transformation that does not depend on annihilation of opposing forces. The *Tao*, Jung said, "tames all that is wild without purifying or transforming it into something higher."<sup>134</sup> The Taoist notion of reversal was instrumental for Jung; in *Tao*, he saw that "the realization of the opposite hidden in the unconscious—the process of 'reversal'—signifies reunion with the unconscious laws of our own being[.]"<sup>135</sup> Jung used the word *Tao* interchangeably with his concept of "synchronicity," a method of forecasting possibilities and of recognizing meaning in non-causally-related occurrences.<sup>136</sup>

In his encounter with Taoism, Jung spent a summer experimenting with the *I Ching*,<sup>137</sup> and even consulted the oracle in writing his foreword to the English translation.<sup>138</sup> The Chinese classic *I Ching*, which arose distinctly from but shares a close relationship with Taoism, is composed of sixty-four symbols or "hexagrams," representing all the possible combinations of six opened (*yin*) lines and six whole (*yang*) lines.<sup>139</sup> The user applies one of various techniques of random selection to produce a symbol, which is then matched to the user's situation to help the user divine hidden causes and directions.<sup>140</sup> The user does not "believe" in these symbols, but rather "entertain[s]" them, "letting them

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130. Jung did not so much draw his ideas from Taoism as find confirmation of his extant theory of personality and individuation within Taoist thought. Of Richard Wilhelm, translator of the *I Ching* into German, Jung said: "It was a tremendous experience for me to hear through him, in clear language, things I had dimly divined in the confusion of our European unconscious. Indeed, I feel myself so very much enriched by him that it seems to me as if I had received more from him than from any other man." 15 C.G. JUNG, *The Spirit in Man, Art, and Literature*, in COLLECTED WORKS ¶ 96 (Sir Herbert Read et al. eds., R.F.C. Hull trans., 1966).

131. 11 COLLECTED WORKS, *supra* note 76, ¶ 755.

132. *Id.*; Coward, *supra* note 104, at 485.

133. See Stephen Karcher, *Jung, the Tao, and the Classic of Change*, 38 J. REL. & HEALTH 287, 288 (1999).

134. *Id.*

135. 13 C.G. JUNG, *Commentary on "The Secret of the Golden Flower"*, in COLLECTED WORKS ¶ 30 (1929).

136. See Karcher, *supra* note 133, at 288–89. For Jung's first discussion of synchronicity, see Coward, *supra* note 104, at 479.

137. See Coward, *supra* note 104, at 477.

138. See Karcher, *supra* note 133, at 294.

139. *Id.* at 292.

140. *Id.*



into the heart-mind.”<sup>141</sup> There, in what Jung referred to as the unconscious,<sup>142</sup> the symbols “rearrange awareness so something new can spontaneously arise.”<sup>143</sup> The process is consciously non-positivist. According to one commentator, “[r]eading *Change* in this way was not thought of as contradicting the rational; rather it compensates for the inadequacy of the rational.”<sup>144</sup>

Jung also relied on the Taoist teaching that the *Tao* manifests through the opposing forces of *yin* and *yang*. Jung recognized that both of these forces exist within human beings: *yang* as the celestial portion of the human soul and *yin* as the earthly part.<sup>145</sup> Tao’s description of the manifestation of opposites within the individual resonated with Jung’s understanding of the individual as a contrast of opposing forces, but capable of reconciliation through individuation: “As a microcosm,” Jung stated, “man is a reconciler of the opposites.”<sup>146</sup>

For Jung, the *I Ching*’s goal of restoring balance between *yin* and *yang* parallels the psychological process toward individuation.<sup>147</sup> Taoism describes Tao as circumambulating around one center, encompassing both the inner and outer worlds, both *yin* and *yang*.<sup>148</sup> To Jung, this description mirrored his empirical observation of the need for the individual to balance both conscious and unconscious contents to arrive at an experience of a psychic whole—called the Self<sup>149</sup>—that incorporates both, represses neither.<sup>150</sup> This inclusion also offers a mitigation of the extremes of either denying the external world (which Jung found in the Hindu concepts of *maya* and universal consciousness) or overbalancing the external empirical consciousness virtually to the point of

141. *Id.*

142. “If the *I Ching* is not accepted by the conscious, at least the unconscious meets it halfway, for the *I Ching* is more closely connected with the unconscious than with the rational attitude of consciousness.” 11 C.G. JUNG, *Foreword to the “I Ching”*, in COLLECTED WORKS ¶ 997 (1958).

143. Karcher, *supra* note 133, at 292.

144. *Id.* at 293. Agnus Graham characterizes pre-Buddhist Chinese thought as falling into two dominant channels: Confucian thought, which is moral analytical but not wholly rationalist, and Taoism, which is irrationalist, in the sense that it denies that reason is the right means to determine the true nature of things. See A.C. GRAHAM, *Rationalism and Anti-Rationalism in Pre-Buddhist China*, in UNREASON WITHIN REASON: ESSAYS ON THE OUTSKIRTS OF RATIONALITY 99 (1992). Rationalism plays only a small part in Chinese thought of this period, “treating analytic thinking as ultimately the servant of correlative.” *Id.* at 98.

145. 6 C.G. JUNG, *The Type Problem in Poetry*, in COLLECTED WORKS ¶ 366 (1971).

146. *Id.*

147. See Coward, *supra* note 104, at 479.

148. *Id.* at 484.

149. See 9.2 C.G. JUNG, *The Self*, in COLLECTED WORKS ¶ 59 (Sir Herbert Read et al. eds., R.F.C. Hull trans., 1959).

150. *Id.*

obscuring all internal reality (which Jung observed to be the peril of Western culture).<sup>151</sup>

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These ideas—*Tao* and *yin/yang*, Self and ego/shadow—are difficult for the Western mind to assimilate, because they challenge a rationalist understanding of the world. One Taoist scholar, writing of the *Tao Te Ching*, described it as a “masterpiece of a kind of intelligence at the opposite pole from the logical.”<sup>152</sup> Jung strongly urged a non-rationalist understanding of the relationship between right and wrong, good and evil:

“The trouble is that we are so accustomed to thinking these problems out until everything is as clear as twice two makes four. But in practice it does not work like that, we do not reach a solution in principle as to how we should always act. To want one is wrong.”<sup>153</sup>

So, too, with any process of individuation: Jung urged other analysts that the union of ego and shadow was an “irrational life-process” that could not be undertaken by “recipe.”<sup>154</sup>

Despite the fact that our Western intellectual culture causes us to strain at these non-rationalist concepts, the strain may be necessary in trying to make sense of dilemmas that challenge rationalist understanding—such as the reconciliation of the opposites that appear to endure in the discussion of sustainable development. Jung, in his forward to the German translation of the *I Ching* urged the Western reader to rid themselves of the “prejudices of the Western mind,” dropping insistence on rational or causal explanations of events as the only valid way of thinking.<sup>155</sup> Instead, Jung encouraged the Western reader to accept the correlation or “synchronicity” of the response offered in the hexagram as constituting a coherent answer to the question posed, however causally unrelated they may appear.<sup>156</sup>

But the invitation to consider these concepts need not be a call to abandon science and rationality altogether. Jung, who regularly insisted that he was not a philosopher but an empiricist,<sup>157</sup> also recognized that Western mindsets had value to add to the discovery of the nature of personality and individuation. Jung cautioned against “abandon[ing] the one safe foundation of the Western

151. *Id.*

152. GRAHAM, *supra* note 126, at 204.

153. 10 COLLECTED WORKS, *supra* note 76, ¶ 871.

154. 9.1 COLLECTED WORKS, *supra* note 88, ¶ 524.

155. 11 COLLECTED WORKS, *supra* note 142, ¶ 1001.

156. *Id.* ¶ 1004–06

157. *See, e.g.*, 10 COLLECTED WORKS, *supra* note 76, ¶¶ 874–75. When Jung was asked in an interview with the BBC if he believed in God, he responded, “I do not believe, I know!” *See* Coward, *supra* note 104, at 489.

mind and los[ing] oneself” in uniquely (and inevitably foreign) Eastern concepts.<sup>158</sup> Instead, Jung argued that the value of Eastern thought comes through instructive comparison to ideas obtained through more familiar Western notions.<sup>159</sup> If we are willing to undertake the experiment, Taoism and analytical psychology—and their respective explanations of the role of opposites—might inform our engagement in the sustainable development debate.

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Does this really help sustainable development? Even if I am willing to “admit” that my perception of your motives might stem from my own unconscious projections, does this change my priorities? And even that level of awareness, according to Jung, is unlikely for most people;<sup>160</sup> shadow projections are, by definition, unconscious and extremely hard to recognize by the individual doing the projecting. If the parties to the sustainable development dialogue are not likely to be conscious of the interplay of ego and shadow, conscious and unconscious, does the theory “work”? In other words, if ego remains ego (the conscious) and shadow remains shadow (the unconscious), does any reconciliation of opposites occur?

Jung’s answer, it seems, is “maybe.” To be sure, in analytical psychology theory, a certain ethical awareness must be achieved for individuation to occur. Jung was very clear that the integration of shadow contents is difficult, that most individuals do not easily recognize their own shadow, and that only with concerted effort can the process occur.<sup>161</sup> Moreover, this process is indispensable, in Jung’s view, for the real transformation of individuation to occur.<sup>162</sup> In one commentator’s words, “[t]he admission of the shadow is the *sina qua non* of individuation.”<sup>163</sup>

But this does not mean that the opposing forces of ego and shadow must cease to be in opposition for transformation to occur. On the contrary, the very premise of analytical psychology was Jung’s view that unconscious contents are psychological facts that cannot be eliminated; such a “victory” of the conscious over the unconscious would in fact amount to nothing more than repression, with potentially disastrous psychic consequences.<sup>164</sup> In this respect,

158. See 13 COLLECTED WORKS, *supra* note 135, ¶ 3.

159. *Id.*; see also HAROLD COWARD, JUNG AND EASTERN THOUGHT 7 (1985).

160. 9.2 COLLECTED WORKS, *supra* note 57, ¶ 16.

161. See *id.* ¶ 14 (“The shadow is a moral problem that challenges the whole ego-personality, for no one can become conscious of the shadow without considerable moral effort.”).

162. *Id.* ¶ 19.

163. David L. Hart, *The Classical Jungian School*, in CAMBRIDGE COMPANION TO JUNG, *supra* note 89, at 92.

164. See 9.2 COLLECTED WORKS, *supra* note 149, ¶¶ 43–67; see also Salman, *supra* note 89, at 55.

Jung departed from Freud, who viewed the unconscious as a defect to be cured.<sup>165</sup>

Jung's solution to the ego/shadow opposition is a promising one for the sustainable development debate. Rather than repressing or overcoming the shadow by the ego (or vice versa), one leading Jungian analyst described Jung's solution to "the optimum relationship between ego and the rest of the psyche [as] one of continuous dialogue. By definition, this is a never-ending process. What changes is the nature of the conversation."<sup>166</sup> Jung's own conclusions about the relationship of ego and shadow make this clear, when he urged that the two sides meet in "a fair fight with equal rights on both sides," in the form of "open conflict and open collaboration at once."<sup>167</sup>

This is the good news for sustainable development: the process is the solution. The forces of "consciousness" (viewed from wherever you happen to be standing) do not need to vanquish the forces of "unconsciousness" (the enantiodromia of whatever you hold good). The city council member does not need to convince the gas executive to abandon his misguided ways, nor outmaneuver him into ineffectuality. The local farmer does not need to convince the developers and the anti-developers to eliminate the spillover effects of their tussle onto third parties. As Jung urges, ego and shadow can engage in "open conflict and open collaboration at once"—as long as it is a "fair fight."<sup>168</sup>

But what makes the fight "fair"? Internationally, developing countries often view sustainable development as a make-nice way of pushing the North's agenda, paying for decades of pollution by denying the South the right to experience the same stages of development.<sup>169</sup> Sustainable development is also criticized as a form of "greenwashing," allowing actors to continue rapid consumption of natural resources as long as they mouth the right words in the sustainable development conversation.<sup>170</sup>

These objections illustrate the point. By definition, ego and shadow will always perceive each other as "unfair." They are opposing forces; opposing forces will not agree. From the perspective of analytical psychology, what is necessary for sustainable development to be transformative is not that opposites will be eliminated, nor that they will be "harmonized" in the sense of ceasing to be opposites. Instead, the essential element for individuation is not elimination of tensions but consciousness of those tensions, and the sources

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165. See Salman, *supra* note 89, at 55.

166. *Id.*

167. See *supra* note 93 and accompanying text.

168. 9.1 COLLECTED WORKS, *supra* note 88, ¶ 522.

169. See, e.g., C. Raghavan, *The Long March From Stockholm 72 to Rio 92*, TERRA VIVA, June 3, 1992, at 8–9, quoted in HUNTER ET AL., *supra* note 26, at 153–54.

170. See, e.g., FTC Guides for the Use of Environmental Marketing Claims, 16 C.F.R. § 260 (2011); Ken Belson, *Gentleman, Start Conserving*, N.Y. TIMES, Sept. 13, 2011, at B13.

from which they spring (both ego and shadow), *without attempting to resolve them*. When these opposites are retained, but brought into awareness, their opposition becomes an energetic force for change.

Economics, environment, and equity will all have their dogs in this fight. Let them duke it out—developers and conservationists, landowners and laborers, farmers and drillers, urban “elites” and rural “rubies.” As long as the fight is conscious—as long as we agree that “sustainable development” is our goal—Jung suggests that transformation will occur. *Is occurring.*

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This process of reconciliation through consciousness of opposites suggests another actor—not just ego and shadow, but some third, more complete consciousness capable of observing both poles. To Jung, this is the Self;<sup>171</sup> in Taoism, it is the *Tao*.<sup>172</sup> If this higher consciousness is a necessary condition to the reconciliation of opposites, does such a consciousness exist in the world today?

It would be tempting to answer this question, and end this Essay, with an optimistic report of early signs of success of “sustainable development” as a new ordering force or at least a theory for a new order: progress (however uneven) toward the Millennium Development Goals, perhaps,<sup>173</sup> or the emergence of a new field, “sustainability science,” whirring with models and indicators and assessment tools and reports.<sup>174</sup> Perhaps the case that sustainable development is “working” could be made in terms that rationalist legal thought demands.

But perhaps our desire for a rationalist accounting of the world is an old habit, based on unexamined assumptions that the world actually works the way

171. See 14 COLLECTED WORKS, *supra* note 72, ¶ 129 n.66; see generally 9.2 COLLECTED WORKS, *supra* note 149, ¶¶ 43–64.

172. See Antonio S. Cua, *Opposites as Complements: Reflections on the Significance of Tao*, 31 PHIL. EAST & WEST 123, 128–29 (1981).

173. In its 2011 progress report, the U.N. reports that its MDG targets for 2015 will be met for less than half of indicia measured. See UNITED NATIONS, *Millennium Development Goals: 2011 Progress Chart, We Can End Poverty 2015* (Aug. 18, 2012, 12:42 PM), [http://www.un.org/millenniumgoals/pdf/\(2011E\)\\_MDReport2011\\_ProgressChart.pdf](http://www.un.org/millenniumgoals/pdf/(2011E)_MDReport2011_ProgressChart.pdf). While the report claims significant progress toward poverty reduction, universal education, and public health goals, it notes that many of the world’s poorest and most vulnerable people have seen the least progress. UNITED NATIONS, *The Millennium Development Goals Report 2011, We Can End Poverty 2015 4–5* (Aug. 18, 2012, 12:51 PM) [http://www.un.org/millenniumgoals/pdf/\(2011\\_E\)%20MDG%20Report%202011\\_Book%20LR.pdf](http://www.un.org/millenniumgoals/pdf/(2011_E)%20MDG%20Report%202011_Book%20LR.pdf).

174. See, e.g., Yuya Kajikawa, *Research Core and Framework of Sustainability Science*, 3 SUSTAINABILITY SCI. 215 (2008); Hiroshi Komiyama & Kazuhiko Takeuchi, *Sustainability Science: Building a New Discipline*, 1 SUSTAINABILITY SCI. 1 (2006); Thomas M. Parris & Robert W. Kates, *Characterizing and Measuring Sustainable Development*, 28 ANNU. REV. ENV’T & RESOURCES 559 (2003).

our senses perceive. We perceive a separation between *here* and *there*, between *then* and *now*. We may tend to distrust “solutions” that fail to conform to our conditioned expectations of cause and effect. We may demand demonstration that sustainable development offers a rationalist formula for getting from *here* to *there*, and be tempted to reject it as so much mumbo-jumbo if it doesn’t.

In place of a rationalist rationalization of sustainable development, consider some recent discoveries of quantum mechanics—discoveries that undermine our conventional assumptions about how the world works, about how *here* relates to *there*.<sup>175</sup> Heisenberg’s uncertainty principle demonstrated that the characteristics of an object cannot be known because to measure an object interferes with the object and affects the measurement.<sup>176</sup> From this premise, a debate arose between Einstein and his colleagues, on the one hand, and the defenders of quantum mechanics, on the other: Einstein believed that objects had fixed and definite characteristics that merely could not be measured, while the quantum physicists denied that such a question was even relevant to physics, which (as a science, after all) was concerned only with what can be observed.<sup>177</sup>

To prove their theory, Einstein and his colleagues proposed a thought experiment.<sup>178</sup> Two particles of equal mass are split off in equal and opposite directions, by a means through which physicists agree (based on well-established principles of physics) will result in the particles having equal and opposite properties.<sup>179</sup> If the characteristics (say, velocity or location) of one of the particles were measured, this would yield a definite statement about the relationship between the two particles.<sup>180</sup> Since the measured particle and the unmeasured particle are separated by space, the measurement of one particle cannot possibly affect the characteristics of the other particle.<sup>181</sup> Thus, Einstein and his colleagues argued, the unmeasured object must actually possess certain characteristics, because those characteristics can be known even though they are not measured.<sup>182</sup> To them, this showed the limits of quantum mechanics,

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175. The following discussion is based on Brian Greene’s bestseller, *The Fabric of the Cosmos*, an indispensably lucid explanation of contemporary physics for non-scientists. Brian Greene, *THE FABRIC OF THE COSMOS* 113–14 (2004).

176. See WERNER HEISENBERG, *PHYSICS AND PHILOSOPHY* 53–58 (1958).

177. See Albert Einstein et al., *Can Quantum-Mechanical Description of Physical Reality be Considered Complete?*, 47 *PHYS. REV.* 777, 778–79 (1935).

178. *Id.* at 779.

179. *Id.*

180. *Id.*

181. *Id.*

182. Einstein, *supra* note 177, at 780.

which, Einstein challenged, proposes that the moon is not there unless someone is observing it.<sup>183</sup>

The response from quantum mechanics came in the form of an experiment devised in the 1960s by physicist John Bell.<sup>184</sup> Bell proposed to measure the spin of two paired photons around three axes (horizontal (1), vertical (2), and diagonal (3)), producing only nine possible comparison combinations: (1,1); (1,2); (1,3); (2,1); (2,2); (2,3); (3,1); (3,2); (3,3).<sup>185</sup> If the photons have fixed and definite rotations around these axes, as Einstein and his colleagues suggested, then the two photons must have matching “programs” for rotations around these axes that include at least two spins in the same direction: the “program” would either be clockwise/clockwise/counterclockwise, counterclockwise/counterclockwise/clockwise, or all three values the same (all clockwise or all counterclockwise).<sup>186</sup> Multiple measurements of each photon’s spin at separate times would then have to yield a matching spin in at least five of the nine comparisons, or more than fifty percent of the time.<sup>187</sup> For example, if the photons’ shared “program” is CLOCKWISE/CLOCKWISE/COUNTERCLOCKWISE, then measurement of the two photons’ spins along the three axes would yield the same value in comparisons (1,1), (1,2), (2,1), (2,2), and (3,3).<sup>188</sup>

As technology developed, physicists were able to conduct experiments measuring, repeatedly and at different times, the spins of paired photons.<sup>189</sup> What they discovered was that the photons’ spins around different axes *did not* match more than fifty percent of the time.<sup>190</sup> Thus, Einstein and his colleagues were empirically proven wrong: the paired photons could not have had fixed, definite spins that were simply “programmed” in, or they would have displayed more than fifty percent agreement in separate tests of their spins. So if the photons’ identical spin patterns are not programmed in, as Bell’s spin test proves, then *what causes the paired photons to display the same spin pattern?*

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183. N. David Mermin, *Is the Moon There When Nobody Looks? Reality and Quantum Theory*, 38 PHYSICS TODAY 38 (1985).

184. John S. Bell, *On The Einstein Podolsky Rosen Paradox*, 1 PHYSICS 195 (1964).

185. *Id.*

186. *Id.*

187. *Id.*

188. *Id.*

189. See Stuart J. Freedman & John F. Clauser, *Experimental Test of Local Hidden-Variable Theories*, 28 PHYSICAL REV. LETTERS 938 (1972); Edward S. Fry & Randall C. Thompson, *Experimental Test of Local Hidden-Variable Theories*, 37 PHYSICAL REV. LETTERS 465 (1976); Alain Aspect et al., *Experimental Realization of Einstein-Podolsky-Rosen-Bohm Gedankenexperiment: A New Violation of Bell’s Inequalities*, 49 PHYSICAL REV. LETTERS 91 (1982).

190. See Freedman & Clauser, *supra* note 189, at 938; Fry & Randall, *supra* note 189, at 465; Aspect, *supra* note 189, at 91.

The fallacy of Einstein's and his colleagues' theory was the fallacy of locality: we perceive that two objects that are spatially separated cannot be connected. According to this intuitive (but incorrect) reasoning, measuring the spin of the left photon could not possibly affect the spin of the right photon, because they are separated in space and we have done nothing to affect the right photon. Quantum mechanics proves that the assumption of locality is false: although we perceive objects separated by space to be unconnected, in fact they must somehow "communicate," or there is no way that they could display identical spin patterns without being pre-programmed to do so (which Bell and his successors proved they are not).<sup>191</sup>

According to physicist Brian Greene, the intuitive explanation is that the paired photons, because of their common origin, are more like parts of a single system (regardless of being separated in space) rather than separate objects.<sup>192</sup> Thus, whatever is done to one particle affects the entire system spontaneously.<sup>193</sup> As Greene explains:

This sounds totally bizarre. But there is now overwhelming evidence for this so-called *quantum entanglement*. If two photons are entangled, the successful measurement of either photon's spin about one axis "forces" the other, distant photon to have the same spin about the same axis; the act of measuring one photon "compels" the other, possibly distant photon to snap out of the haze of probability and take on a definitive spin value—a value that precisely matches the spin of its distant companion.<sup>194</sup>

Quantum entanglement does not describe the behavior of all particles; in most cases, even for matter with common origin, so many intervening factors affect behavior that the particles cannot be said to be acting in concert.<sup>195</sup> But this experiment shows that one of our most intuitive observations about how the universe works is wrong: space does not create an indelible "separateness." Entangled particles act in concert regardless of the amount of space between them.

In the past century, physicists themselves have begun to comment on the similarity between the scientific and the Eastern mystic understanding of the complementary function of opposites within systems. For instance, in describing the intellectual revolution of quantum mechanics, physicist J. Robert Oppenheimer described a different manner of thinking about matter that transcends the limits of sense perception, a manner he related to ancient Eastern mysticism:

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191. See Bell, *supra* note 184, at 195; Freedman & Clauser, *supra* note 189, at 938; Fry & Randall, *supra* note 189, at 465; Aspect, *supra* note 189, at 91.

192. Green, *supra* note 175, at 116.

193. *Id.*

194. *Id.* at 115.

195. *Id.* at 122–23.



If we ask, for instance, whether the position of the electron remains the same, we must say “no”; if we ask whether the electron’s position changes with time, we must say “no”; if we ask whether the electron is at rest, we must say “no”; if we ask whether it is in motion, we must say “no.” The Buddha has given such answers when interrogated as to the conditions of a man’s self after his death; but they are not familiar answers for the tradition of seventeenth- and eighteenth-century science.<sup>196</sup>

Niels Bohr, one of the most influential of the early quantum physicists,<sup>197</sup> chose for his coat-of-arms the Taoist symbol for *t’ai-chi*, representing the complementary forces of *yin* and *yang*.<sup>198</sup> For the inscription, Bohr chose the phrase *Contraria sunt complementa* (Opposites are complementary).<sup>199</sup> In *The Tao of Physics*, physicist Fritjof Capra describes modern science as evolving back to support the concepts of mysticism from which it broke off by the fifth century B.C.<sup>200</sup> “The further we penetrate into the submicroscopic world, the more we shall realize how the modern physicist, like the Eastern mystic, has come to see the world as a system of inseparable, interacting and ever-moving components with man being an integral part of this system.”<sup>201</sup>

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Sustainable development, as a concept, requires us to tolerate tensions that seem intolerable. It requires us to believe that inherent contradictions can produce solutions. It asks us to travel down a road that does not claim to lead to a destination. It requires us to contemplate that what happens over *here* might affect something that happens over *there*, even if the two do not appear to be connected. It does not propose any means to choose between the opposites that we stand between every time we engage, with each other and even within ourselves.

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196. J. ROBERT OPPENHEIMER, *SCIENCE AND THE COMMON UNDERSTANDING* 40 (1953). Physicist Fritjof Capra notes that the central teaching of Buddhism, like Taoism and also Hinduism, is “to become aware of the unity and mutual inter-relation of all things, to transcend the notion of an isolated individual self and to identify themselves with the ultimate reality.” FRITJOF CAPRA, *THE TAO OF PHYSICS* 24 (1975). The central concerns of Buddhism, which originated in India, were distinctly different from the Chinese concerns that animated Taoism, but similarities were strong enough that Chinese Buddhists were sometimes viewed as practicing a variant of Taoism. See FOWLER & FOWLER, *supra* note 99, at 113–16.

197. Oppenheimer described the weight of Bohr’s influence on quantum mechanics: “[I]t involved the collaboration of scores of scientists from many different lands, though from first to last the deeply creative and subtle and critical spirit of Niels Bohr guided, restrained, deepened, and finally transmuted the enterprise.” OPPENHEIMER, *supra* note 196, at 35.

198. See CAPRA, *supra* note 196, at 144.

199. *Id.*

200. *Id.* at 19–23.

201. *Id.* at 23.

Rather than spelling the idea's failure, as many have argued, these counterintuitive, even infuriating demands of sustainable development may suggest its power as an agent of change. Great religious, philosophical, and scientific traditions throughout history have found transformative potential in just such opposing forces, if only we can resist the urge to subdue them. Perhaps our greatest challenge, as sustainable development moves forward, is to abide in those tensions with awareness. Attempts to "thicken" sustainable development theory in a way that rationalizes away its tensions may serve only to further entrench the opposites beyond the possibility of transformation through consciousness. Let the "fair fight" continue, each incompatible principle (development, conservation, equity) having its day, and sustainable development may deliver more than it would, to the rationalist mind, seem able to promise.

