

Orthomolecular medicine, catalytic creativity, and the psychosocial ecosystem

Transitioning from one year to the next: Various cultures since time immemorial have marked and celebrated the winter solstice with celebrations, meals with friends and family, and time away from work; transitioning from one calendar year to the next has given people pause and a moment to reflect on the events that happened in the past year and what might be anticipated in the next. Reflection with anticipation along with the realization that the future is somewhat malleable inclines people to imagine how the future might be shaped by the exertion of some modicum of creativity and effort. Any realistic conception of how we might improve the near future must segue from our recent past; we must have an awareness of what is going on around us as we look toward the future to visualize ourselves living within it and also acting upon it. *What is going on in the world and how might I act upon that trend and flow in order to improve both its transition and its destination? What should each of us do on a personal level to (in the phrase of Mahatma Gandhi) be, embody, and materialize the change(s) that we want to see in the world?*

Salutation and introduction from the Journal's new Editor: Over the past few years I have reflected on several occasions how much I enjoy editing, and so I was correspondingly surprised and pleased when I was offered the opportunity to be the next Editor for the *Journal of Orthomolecular Medicine*. I began studying nutrition and orthomolecular concepts in my teen years and more diligently as I entered graduate school in the early 1990s. The first true “orthomolecular nutrition” book that I read as an adult was *Mega-Nutrients for Your Nerves* (1975) by medical physician HL Newbold¹, and this was followed immediately thereafter by the taped lectures of Jonathan V Wright MD and Alan Gaby MD, the latter of whom would later be my Professor of Nutrition at Bastyr University. By the mid-1990s, Linus Pauling's former student Jeffrey Bland PhD had introduced us to the concept of functional medicine, which I studied ravenously for academic² and personal³ reasons. By this time my own personal library contained several hundred books, mostly dedicated to nutrition and health with another large section on philosophy and psychology. In 1994, I joined the Review Staff of the *Journal of Naturopathic Medicine*, and I started publishing nutrition articles, perhaps most of which might be seen as practice in preparation of an important letter published in 1996 by the American College of Rheumatology in their journal *Arthritis and Rheumatism*. Since those early years and during the course of three doctorate degrees and teaching thousands of students/attendees internationally, I have reviewed for⁴ and published in⁵ a wide range of refereed journals in addition to publishing commissioned books, chapters, and independent publications and videos. Being an author and reviewer for many different publications—along with my experiences teaching internationally, treating patients in various settings, designing and directing academic programs, and producing educational videos—has given me a wide range of experiences and insights that I hope to bring to the benefit of *Journal of Orthomolecular Medicine*.

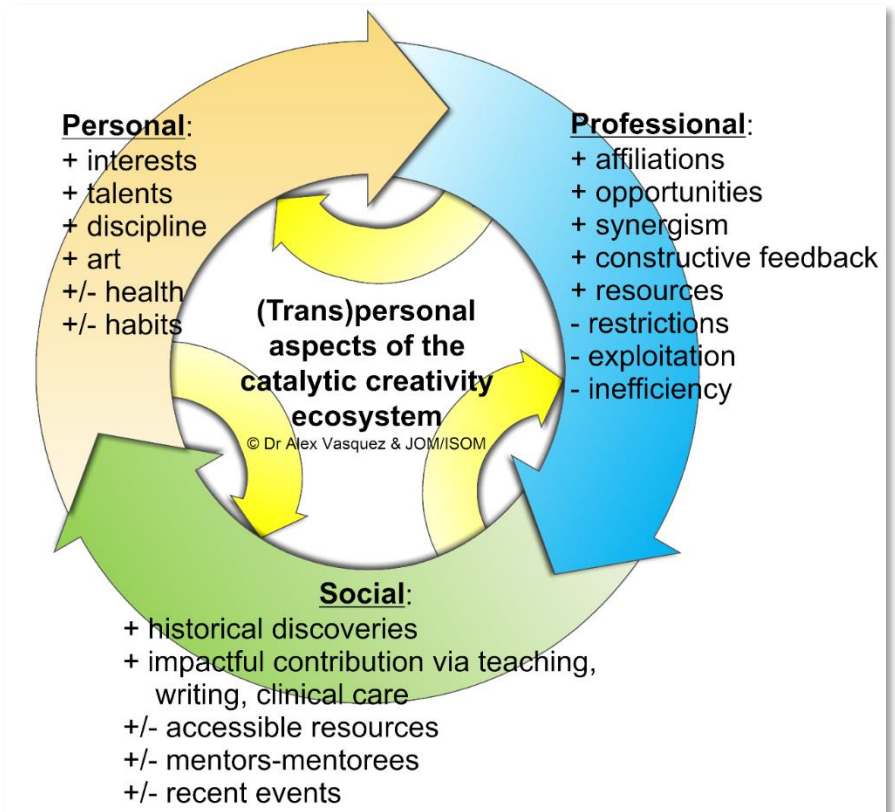
We must work together if we are going to succeed: I have to start this conversation with a few hopes, assumptions, and beliefs, namely that you (the reader) and I (the author and new Editor) have a few things in common. On a professional level, by virtue of the fact that you are reading this essay, I will assume that you are interested or actively engaged in healthcare, medicine, nutrition, research and/or public health. I might also imagine that some smaller percentage of our new and established readers are perhaps less inclined toward the mechanisms and more drawn to *Journal of Orthomolecular Medicine* for its potential humanistic insights and social contributions; we can reasonably argue that social infrastructure and competent healthcare (both including the provision of adequate nutrition) are basic human rights. (If anyone wants to submit a counterargument advocating the contrary of any or all of my assertions, they are welcome to do so.) Further and more to the point, my assumptions also include that—regardless of personal position and professional pedigree—we share some common personal interests and goals including the following:

- **We each want to receive and deliver the best healthcare possible:** If we have a problem, then we each want the best possible solution. Efficiency of time or money is not the top priority when we are seeking solutions to health problems, whether ours or someone else's. Fast and cheap are not criteria for quality and are largely irrelevant unless we are triaging patients and mass-producing healthcare for a large group in a specified and resource-limited setting. For most patient-doctor encounters, both persons should be focused on *the best solution*, not a pseudo-solution that is chosen principally on the basis of efficiency, expediency, nor bias, prejudice, paradigm or paid promotion. For us as patients to be informed of the best possible options, we need access to information and personnel that can help us understand and select the best course of action. For those of us in clinical practice and administration (including academics and research), we know that accurate information is our required substrate for the insights and interventions that help us succeed in performing work and producing results marked by excellence. In all of these endeavors, accuracy of information and integrity of the scientific investigative process are of paramount importance, sacred and fundamental to everything that results thereafter, including the delivery of healthcare and the furtherance of science. A single scientific publication can affect healthcare and thus health outcomes for tens of millions of people.
- **We want to be able to think and perform at the best of our ability:** Optimal nutrition is required for optimal intellectual and physical performance but is not sufficient for either. Beyond nutrition, intellectual (including social and artistic) and physical performance both have the requirement of training in order to facilitate the neuronal and cardiovascular circuitry necessary for efficient coordination, execution of programs, and support of metabolic processes. Further, optimal intellectual and physical performance also have the requirement of resources (e.g., time, trainers/teachers), motivation and discipline. Clear thinking requires that the mind has access to accurate information on which to perform; metabolically optimal neuronal functioning is of limited value if the information and paradigms coursing through that circuitry are fundamentally flawed.

Just as the body cannot perform optimally on a diet of junk food, the mind cannot perform optimally on a buffet of junk culture. As such, we have to safeguard the accuracy of ideas and—further and importantly—constantly push for their contextualization and integration.

- We want to be free to live and work creatively and socially: Beyond feudalism, slavery, and the medieval mindset that viewed most humans as fodder for the whims of deities, humors, and aristocracy, modern social thought holds that persons are definitively and perhaps infinitely creative and capable of self-determination, if allowed some modicum of resources. However,

creativity and freedom are both dependent on an awareness of facts, and thus if one is to posit that creativity and freedom are important, then access to accurate information is likewise of high importance. For our creativity to reach its highest manifestation, it must ultimately be shared with and incorporated into the larger world, far beyond our own ideas and mental processes. Indeed, creativity is not entirely an individual accomplishment, but generally springs from or is strongly influenced by previous discoveries and also the social context that surrounds us. Thus, “the social” supports if not directly feeds “the creative”, and reciprocally creative ideations must be incorporated into the



Catalytic creativity occurs within a psychosocial ecosystem:

A few great thinkers and poets have alluded to these aspects which are only partly described in the illustration. Rainer Maria Rilke (1875–1926) wrote, "I live my life in growing orbits / which move out over the things of the world. / Perhaps I can never achieve the last, / but that will be my attempt." Friedrich Nietzsche (1845-1900) encouraged, "And so, onwards... along a path of wisdom, with a hearty tread, a hearty confidence. However you may be: be your own source of experience. Throw off your discontent about your nature. Forgive yourself your own self. You have it in your power to merge everything you have lived through—false starts, errors, delusions, passions, your loves and your hopes—into your goal, with nothing left over."

larger social fabric. The “creative mind” exists within, is shaped by, and helps to maintain the psychosocial ecosystem in which it exists as part of a continuum.⁶ The founder of the orthomolecular concept—Linus Pauling PhD, who was awarded the Nobel Prize in Chemistry 1954 and Nobel Peace Prize 1962 and remains the only person to be awarded two undivided Nobel Prizes—fused his scientific interests, natural and developed talents, and his social engagement in such a way that each fueled the other and resulted in synergistic effects aptly referred to as “catalytic creativity.”⁷ Indeed, intellectuals and “academic scholars” should be encouraged to fuse and bond their social-personal interests with their medical-molecular interests, as all positive science must ultimately manifest socially and for the benefit of humanity. The idea of an “isolated scholar” can be seen as a nonsensical paradox⁸, given that any scholar by definition is reading and studying the work of others—the fruits of others’ effort, labor, creativity and toil; a scholar who reads without teaching/sharing is simply a reader, because scholarly activity requires sharing and testing of one’s ideas. I have listed a few aspects—personal and transpersonal—of what I call the catalytic creativity ecosystem (see illustration and caption); while a pollyannic version of such a diagram would list only positive and contributory components that shuttle one upward into the light of ascensionist achievement, in reality we have to acknowledge negative and even paradoxical aspects of such an interconnected dynamic, a good example of which is teaching, which provides inspiration and opportunity for us to share the best of our information, but which can also drain us in administrative inefficiency, political chaos, and underpaid exploitation.⁹

- For those of us engaged in science, research, healthcare and education, we want and need a forum to share and test our ideas and to receive accurate information: *Journal of Orthomolecular Medicine* will serve as the preeminent and definitive forum for the amalgamation, final molding, and testing of our ideas related to this field, thereby ultimately serving as a rich depository of detailed and practical information that bridges the research bench to the patient’s treatment plan and ultimately thereafter to their lifestyle and health outcomes.

The future belongs to those who write it: Our current social and healthcare futures are being scripted by drug companies that now brazenly and openly pay medical schools, research universities, medical journals and organizations, and politicians to promulgate their interests (often overt falsities) and—via the new international barrage of mandatory medicalization—restrict personal freedoms and social rights, including the right to education, social support, and travel. As many national governments are unled, unorganized and underfunded¹⁰, drug companies are delighted to provide direction, leadership, and cash incentives to politicians in exchange for the passage of legal mandates requiring the forced medicalization of their citizenry. Most major medical journals work in concert with drug companies and simply print research that supports the sales of their drug company advertisers and journals’ sales of pro-drug article reprints.¹¹ Major media such as newspaper and television channels echo pro-pharma propaganda by converting biased science into headlines and news stories. Drug companies give millions of

dollars to medical schools and research universities under the auspice of “supporting science” and then the schools reciprocate by teaching drug-dependent healthcare while the research universities churn out pro-drug research under the guise of “independent scholarly activity.” Drug companies directly fund the publication of diagnostic criteria and disease treatment guidelines in such a way that broad and inaccurate diagnoses are facilitated and thereafter followed by long-term medicalization. Astute and ethical physicians can find themselves disciplined for not complying with medical protocols even when those protocols have zero supporting evidence (eg, after having been adopted via pharmaceutical politics) or are actually contrary to patient health and well-being (eg, expensive drugs that increase risk of suicide and psychosis disproportionate to their purported benefit). Decades of industry-influenced and ghostwritten research has contaminated the nutrition research published in headlining journals, and then the media blame “nutrition” instead of investigating the system of scientific corruption that leads to biased industry-friendly research. Publishers spin bad research in nutrition, integrative care, and functional medicine as if they are simply looking for anything they can print on a popular topic (and thereby please their advertisers and sales teams) rather than selecting research based on quality and importance.^{12,13}

We need all hands on deck: Anyone who paid attention during 2018 saw that it was a disastrous year for science and medical ethics. While headlining journals sang the usual refrain of *another glorious year for the advancement of medicine and technology*, those of us observing the naked emperor saw a vulgar show of disrespect toward every aspect of intellectual integrity and scientific process:

- The “collapse” of the Cochrane Collaboration and the personal attacks against its founding Director Dr Peter Gotzsche (MD, DrMedSci, MSc) after he questioned the legitimacy of a vaccine-praising meta-analysis that had failed to include significant data showing inefficacy and/or harm appeared to send a clear message to anyone who might dare question any aspect of the pharmaceutical paradigm, especially if those questions might be contrary to the interests of financial donors who have decades of “partnership” with drug/vaccine companies. The major media, newspapers and television have provided zero coverage to this major event in medicine and science.
- Two very questionable meta-analyses (marked by numerous errors including underdosing and inappropriate placebos¹⁴) were published condemning the use of n3 fatty acids from fish oil for cardiovascular disease prevention only to then be followed by a late-breaking clinical trial advocating the use of *prescription-only* n3 fatty acid supplementation; the latter trial used mineral oil as a “placebo” despite decades of documentation showing that mineral oil blocks absorption of cardioprotective antioxidants, leads to changes in hepatic and lymphatic morphology¹⁵ and promotes inflammation and dyslipidemia.¹⁶ The *New England Journal of Medicine* refused to publish an authoritative critique of their publication stating that the journal did not have sufficient space for a critique limited to 175 words in contrast to their questionable feature article of

nearly 7,000 words.¹⁷ The major media published this story numerous times and generally failed to point out the obvious errors in this research and the financial conflicts of interest—including drug companies' paying the research faculty and supervising their work at key meetings—with an estimated impact on the healthcare of at least 10 million people.

- A major cardiology journal published a supposed meta-analysis on the use of multivitamins for cardiovascular disease prevention, and—despite the fact that the article would not have been acceptable for a graduate nutrition course lead by a competent professor—the journal's Editor stated that the paper was a breakthrough advance in nutritional science, on par with James Lind's discovery of the use of natural-sourced vitamin C for the treatment of scurvy. News outlets again recycled this story, to the dismay of critical thinkers and the pleasure of pharmaceutical advertisers.

The ability to respond: Everyone wants to feel competent and capable, to have the ability to respond to the requirements and opportunities that life, occupation, interests and society present. People want the *ability to respond*, but they shudder and shrug when someone suggests that they have *responsibility*; the irony is that many people want *response-ability* without *responsibility*. However, one cannot claim “ability” without also having the will and discipline to actually use it; being a great artist, philosopher or athlete requires more than talent—also required is the motive force to constructively use that talent.

Opposition and opportunity: The ideas of *pursuing our passions* and *following our bliss* are encouraging and inspiring ideas, especially during our teen and early adult years; as we gain a more mature view of the world, we confront events and energies that require our attention and resistance, but which may do so without exactly stirring our egotistic passions. We have to face the fact that some people and organizations have destructive and hegemonic goals that they will force upon our lives and our communities; we can feign blindness and enact cowardice, but we do so at costs, immediately of our self-respect and ultimately of our health and freedoms. Although I am sure that most of us including myself would prefer to dance in circles in sunlit flowered mountainsides like scholarly versions of Julie Andrews as we intone our most recent insight to a receptive audience, our responsibilities as intellectuals include not simply the proclaiming of truths and new insights but also fighting against lies and corruption. If we want our views to have voice and volition, then we have to organize, substantiate, publish and defend them. If we want our views to have voice and volition, but then we individually and collectively fail to scientifically construct them, then we will largely have ourselves to blame when those ideas are ignored or discredited by a medical-industrial complex¹⁸ that values sales over science and profits over patients. As Edmund Burke famously stated more than 100 years ago, “The only thing necessary for the triumph of evil is for good men to do nothing.” When the knowledgeable and talented are silenced or silent, then chaos, incompetence, and injustice will reign.

Concluding invitation: For 50 respectable years, *Journal of Orthomolecular Medicine* has served as a repository of experiences, insights, and information for clinicians, researchers, academicians

and healthcare policymakers. The *Journal* provides a unique forum for the exchange of ideas and the documentation of safe and effective advances in patient care and disease understanding. Readers are invited to become authors, especially of brief [Clinical Observations](#), [Case Reports](#), [Hypotheses](#), and [Critiques of Literature Published Elsewhere](#). Full-length [Reviews](#) and [Original Research](#) are of course always welcome. Density and wit are encouraged, particularly as aphoristic concision is perfectly suited for today's reader's busy schedules and limited attention. Please enlighten us with your knowledge and insight and passionate prose, plead your case, defend your position, advance your hypothesis—all of these themes and contributions are welcome at *Journal of Orthomolecular Medicine*.

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Editor, *Journal of Orthomolecular Medicine*

Citations and endnotes:

¹ Newbold HL. *Mega-Nutrients for Your Nerves*. New York: Wyden, 1975

² I discuss the early days of functional medicine in a section of the following book: Vasquez A. *Textbook of Clinical Nutrition and Functional Medicine*. Barcelona, ICHNFM 2016; pages 134-148 <http://www.academia.edu/26379103/>

³ I discuss some of my personal experience with illness resulting from gastrointestinal dysbiosis in the following article: Vasquez A. Translating Microbiome (Microbiota) and Dysbiosis Research into Clinical Practice: The 20-Year Development of a Structured Approach that Gives Actionable Form to Intellectual Concepts. *Int J Hum Nutr Funct Med* 2015;v3(q2):p1 <http://www.academia.edu/12870819/>

⁴ Journals for which I have reviewed include *Journal of Pain Research*, *Autoimmune Diseases*, *PLOS One*, *Alternative Therapies in Health and Medicine*, *Neuropeptides*, *International Journal of Clinical Medicine*, *Journal of Inflammation Research*, *BMC Complementary and Alternative Medicine*

⁵ Journals in which I have published include *British Medical Journal (BMJ)*, *Annals of Pharmacotherapy*, *Nutritional Perspectives*, *Journal of Manipulative and Physiological Therapeutics (JMPT)*, *Journal of the American Medical Association (JAMA)*, *Integrative Medicine*, *Alternative Therapies in Health and Medicine*, *Journal of the American Osteopathic Association (JAOA)*, *Journal of Clinical Endocrinology and Metabolism*, *Current Asthma and Allergy Reports*, *Complementary Therapies in Clinical Practice*, *Nature Reviews Rheumatology*, *Annals of the New York Academy of Sciences*.

⁶ Burley T. "The Neuroscience of Creativity: A Gestalt Perspective." In Margherita Spagnuolo Lobb and Nancy Amendt-Lyon (editors). *Creative License*, Springer-Verlag Vienna 2003, pp 79-89 DOI: 10.1007/978-3-7091-6023-7_7

⁷ Nakamura J, Csikszentmihalyi M. Catalytic creativity: The case of Linus Pauling. *American Psychologist* 2001; 56(4), 337–341

⁸ I say "The idea of an isolated scholar *can be seen* as a nonsensical paradox..." with all due respect for the many scholars who have in the past (eg, Friedrich Nietzsche) and those many (of us) who continue to work largely alone, and indeed more alone than we would wish, given the option of better academic climate and opportunities. Friedrich Nietzsche, who's work I have studied for more than 20 years, was notably isolated and notably a true scholar, but he was not isolated solely because he was a scholar; he was isolated by choice (he largely did not like being around people in general and a large number of people in particular) and by circumstance, due to his illnesses which forced him to resign his teaching position. Thus, I am respectfully considering Friedrich Nietzsche as the perfect example of an isolated scholar, but he very clearly was not isolated because he was a scholar but rather due to other circumstances, also including the rift with his best friends Lou Andreas-Salomé and Paul Rée. Nietzsche himself often wrote his books specifically referencing "you, dear reader" so that one can see that in his own mind he considered himself to be speaking with and teaching his readers as his virtual students.

⁹ Vasquez A. Ending the Exploitation of Experts Begins with Educating Them about Employment, Curbing Enthusiasm to Preserve Enthusiasm. *Int J Hum Nutr Funct Med* 2016 <http://www.academia.edu/21878146>

¹⁰ For example, as I write this in the last days of 2018 and early 2019, the United States is in its third-of-year and ongoing defunded “government shutdown”, but you can be sure that the drug companies are not taking a vacation nor disregarding their profit and power motives. “Hundreds of thousands of federal employees will have to work unpaid or are furloughed, a kind of temporary leave. ... Most of the Internal Revenue Service (IRS) will be sent on unpaid leave, including those who assist taxpayers with queries. The Food and Drug Administration will pause routine inspections but “continue vital activities”. US shutdown impasse over Trump's wall drags on. 28 December 2018 bbc.com/news/world-us-canada-46695223. “Osborn is one of roughly 800,000 US government employees who are legally barred from working, and are going without pay, during the federal shutdown that began on 22 December 2018. ... As the shutdown hits the two-week mark with no end in sight, its effects on science have begun to compound, leaving many government researchers weary, worried and demoralized.” Morello et al. Scientists despair as US government shutdown drags on. *Nature* 2019 Jan doi:10.1038/d41586-019-00008-0 <https://www.nature.com/articles/d41586-019-00008-0>

¹¹ Smith R. Medical Journals Are an Extension of the Marketing Arm of Pharmaceutical Companies. *PLoS Med.* 2005 May; 2(5): e138 <https://doi.org/10.1371/journal.pmed.0020138>

¹² Vasquez A. Correspondence regarding Cutshall, Bergstrom, Kalish's "Evaluation of a functional medicine approach to treating fatigue, stress, and digestive issues in women" in *Complement Ther Clin Pract* 2016 May. *Complement Ther Clin Pract.* 2018 May;31:332-333. doi: 10.1016/j.ctcp.2016.10.001 and archived <http://www.academia.edu/29418268>

¹³ Vasquez A. Open Correction to PLOS One and Grave Concern about the Journal’s Editorial Quality and Review Process: Comment on “Microbiome restoration diet improves digestion, cognition and physical and emotional wellbeing. PLOS One 2017 Jun.” *Int J Hum Nutr Funct Med* 2017;5:4 <http://www.academia.edu/34072801>

¹⁴ See Review of “Associations of Omega-3 Fatty Acid Supplement Use With Cardiovascular Disease Risks” *JAMA Cardiology* 2018 <https://vimeo.com/255648523> and Brief Critique of “Effects of n–3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study” *N Engl J Med* 2018 Aug <https://vimeo.com/287650812> for discussion

¹⁵ The effects of mineral oil. *JAMA.* 1947;135(8):512-513. doi:10.1001/jama.1947.02890080042011

¹⁶ Herper M. Amarin's Fish-Oil-Derived Drug Shows Great Promise—With Big Caveats. *Forbes* 2018 (Nov 10) <https://www.forbes.com/sites/matthewherper/2018/11/10/fish-oil-derived-drug-shows-great-promise--with-big-caveats/>

¹⁷ Vasquez A. Comment on Effects of n–3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study. *N Engl J Med* 2018 Aug [rejected] <https://www.academia.edu/37964035>

¹⁸ Stevens CW, Glatstein E. Beware the Medical-Industrial Complex. *Oncologist.* 1996;1(4):IV-V <http://theoncologist.alphamedpress.org/content/1/4/190v.full.pdf+html>