Outside Inside

ADAM DICKINSON
Department of English, Language and Literature, Brock University, Canada

Abstract Through the proliferation of plastics, and chemical pollution more generally, petrochemicals constitute forms of social, material, and biological writing. How might contemporary writers respond to the capacity of petrochemical hyperobjects to influence social formations or alter human metabolism? This selection of poems is an attempt to work within a necessarily expanded notion of what constitutes reading and writing in the Anthropocene. Incorporating the results of biomonitoring tests for phthalates on the author's own urine, the poems consider the "metabolic poetics" of endocrine disrupting chemicals. By focusing on the "outside" that is "inside," the poems draw attention to the coextensive and intra-active nature of the body with its environment and the consequent implications for linking the human to the nonhuman and the personal to the global in environmental ethics.

Keywords Anthropocene, biomonitoring, endocrine disruption, metabolic poetics, phthalates, poetry

Hormones have their own poetics. Secreted into the circulatory system in response to chemical signals, hormones write to distant organs. Their task is the prosody of metabolism—cellular rhythms harvest energy from food and air to fuel digestion, reproduction, growth, and the general health of a body. This book of glands and hormones makes up the endocrine system, an enduring evolutionary adaptation that has changed little in millions of years. Estrogen and its receptors are ancient, having continued for eons to perform important functions in all vertebrates and even in some insects.[1] The hormone and its receptor fit together like a head into hands, or a hack into a password. The emergence of petrochemicals in the Anthropocene has coincided with the proliferation of endocrine disrupting chemicals. These hormonal mimics, present in many common consumer products, are mistaken for keys to cellular locks, altering the body's hormonal chemistry.[2] Phytoestrogens, abundant in many of the plants we eat, are also estrogen mimics; however, they are familiar antagonists in the long history of

1. Trimel, "Estrogen Emerges as Most Ancient of All Hormones," 2; Mechoulam et al. "Estrogens in Insects," 942.

2. Colborn, Dumanoski, and Myers, *Our Stolen Future*, 71–75

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evolution—they are a defense mechanism against grazing.[3] Plant estrogens lack the unprecedented potency of emerging chemicals such as phthalates.[4] Phthalates are in everything from personal-care products, medical devices, and food packaging, to children's toys, air fresheners, and building materials. They are added to plastics to make them soft and pliable, to cosmetics as a lubricant and penetrant, and to fragrances and other scented products to increase the longevity of smells.[5] The characteristic and desirable "new car smell" is composed in part of phthalates off-gassing from plastic finishes. As estrogen mimics, phthalates can adversely affect the development of the reproductive system in mammals.[6] They have been linked to infertility, lowered sperm counts, various reproductive tract malformations, asthma, obesity, and cancer, among other toxic effects.[7]

How might we shift the frames and scales of conventional forms of signification in order to bring into focus the often inscrutable biological and cultural writing intrinsic to this Anthropocene moment? One place to look, by way of an expanded notion of writing, is in the metabolic processes of human bodies and their inextricable link to the global metabolism of energy and capital. As an attempt to explore this "metabolic poetics," I tested my blood and urine for hundreds of chemicals, including phthalates. I wrote about some of the issues associated with what I found. The epigraphs to the sections in the following poem "Disruptors" indicate urine levels of various metabolites that signal the presence of a particular phthalate in my body. What's inside me is very likely inside you, too.

Disruptors

Mono-(2–ethyl)-hexyl phthalate (Urine): 9.94 ng/mL

Under pressure to be fearless, the male brain sweats in a jar. The two halves are drawing different conclusions. How are other people feeling? The male brain thumbs tacks. Having been doused in an embryo at the buzzer, the male brain wanders into problems with a backpack full of explosives. Every night a pilot light schools its flagellant arms race, annealing metals in its dismounted police. Having bravely stood in a javelin rain, the male brain turns a blow dryer on a friend's stream of pee. Though it will never admit to this, the male brain is tense that its tense is the future perfect: what will have been the means by which it means? It squats in its skull like a cork.

Mono-(3–carboxypropyl) phthalate (Urine): 11.8 ng/mL

Grasses defend themselves.
Succulents defend themselves.

3. Hughes, "Phytochemical Mimicry of Reproductive Hormones," 171.
4. Colborn, Dumanoski, and Myers, *Our Stolen Future*, 81–82.
5. Smith and Lourie, *Slow Death by Rubber Duck*, 35.
6. Rodgers et al. "Phthalates," 31.
7. Crinnion, "Toxic Effects," 190.

In an ordinary field, spines
and thorns. Foraged plants

defend themselves. Tannins,
terpenes, alkaloids. Difficulty
ripping and swallowing. Shrubs
have molecules dedicated

to bitterness. Some spike dead
stems to stop grazing. Some
suppress fertility in animals
that feed on them. Estrogen

mimics in phenolic rings. Beet,
barley, sunflower, rapeseed defend
themselves. Greeks and Romans
ate pine and pomegranate

to prevent pregnancy. Wheat,
sage, alfalfa, clover, soybean,
garlic, and hollyhock defend themselves.
Estradiol in the pill, phytoestrogens

in apples, bluegrass, oats, cherries,
rice, and rye. Plants defend themselves.
Dead plants defend themselves
rearranged into plastics. Estrogens

in air fresheners, shower curtains,
detergents, cosmetics. Estrogens
in water bottles, flame retardants,
children's toys, money. Estrogens

coat hands holding receipts.
Estrogens accumulate like sensible
heat. Date palm, rhubarb, willow
defend themselves. Plum, potato,

parsley defend themselves. Coffees
defend themselves with contraceptives.
In the beans, in the Mesozoic algae
in the disposable cup.

Mono-n-butyl phthalate (Urine): 30.9 ng/mL

A stone rolled in front of a cave makes a mediocre lock. A crocodile in a moat is more difficult to pick. Locksmiths don't call these locks any more than they would a chair wedged against a door. To make it legit, a key must appear—a combination, a steroid.

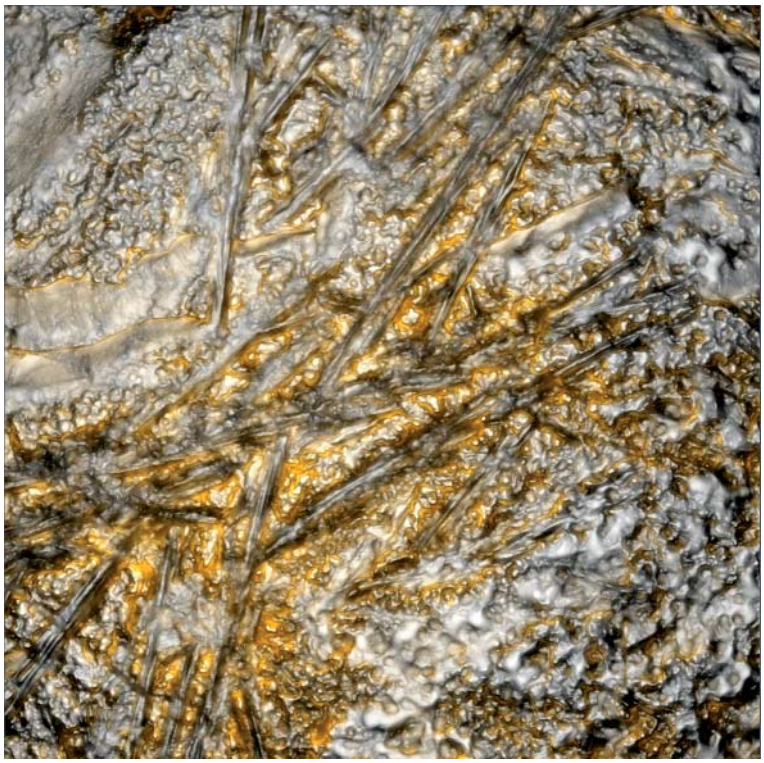

Figure 1. Can writing function as a productive hormone disruptor within larger cultural narrative sequences? This is my urine. Its metabolites are messages.

Almost every key has a bow. To get her husband's bow from the storeroom, Penelope went upstairs to retrieve a key made of bronze with a handle of ivory. A lock is a psychological threshold. A key is a suitor who can shoot an arrow through a line of twelve axes. Everything required to put together a baby must arrive at precisely the right moment. Sometimes my kids take my keys. Organs snap open and shut at each gate. They're under the couch, inside the microwave, and in the freezer. They're outside still stuck in the door. I've found them in my other hand.

Mono-benzyl phthalate (Urine): 4.63 ng/mL

Heliotrope musk
still fat
in the asphalt
after sundown
open road
balsamic
blacktop
terpene pines
in my memory
dark notes
divide the stars

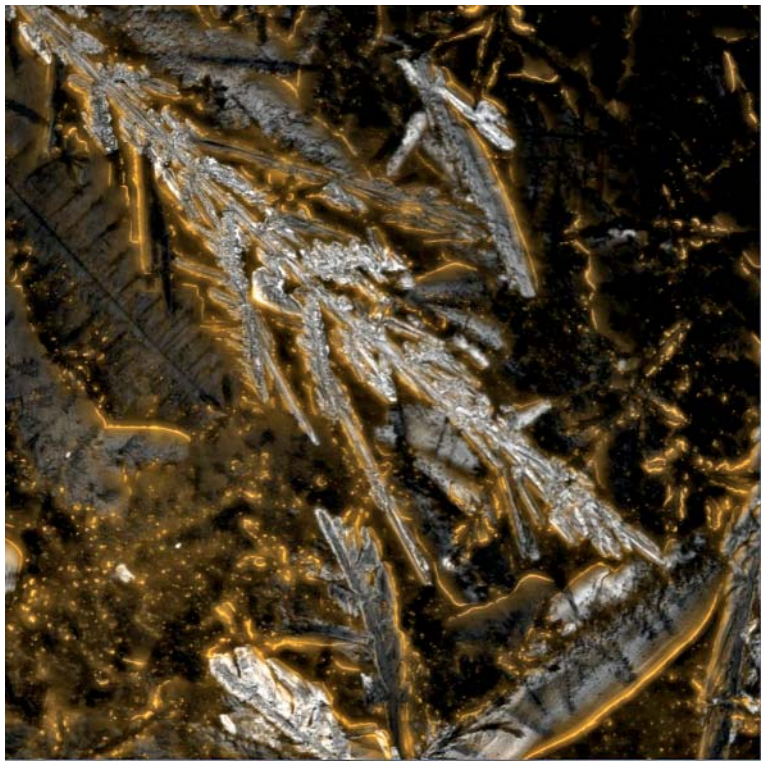

Figure 2. Being able to read the chemicals in bodily fluids means being able to read the writing of the Anthropocene in ways we have not been able to do yet, in ways that might illuminate the common crowds we bear and the crowds in common that we are.

with resin-scented
pencil shavings
the gearshift
and seat cushions
the paraben
dichloromethane
we are ringed
in anamalic aldehydes
luminous and almond
the trail left
from the wake
of washed hair.

ADAM DICKINSON is the author of four books of poetry. His work has been nominated for the Governor General's Award for Poetry and twice for the Trillium Book Award for Poetry. He is a professor of poetics and creative writing at Brock University in St. Catharines, Ontario, Canada.

References

Colborn, Theo, Dianne Dumanoski, and John Peterson Myers. *Our Stolen Future*. New York: Plume, 1997.

Crinnion, Walter J. "Toxic Effects of the Easily Avoidable Phthalates and Parabens." *Alternative Medicine Review* 15, no. 3 (2010): 190–96.

Hughes, Claude L., Jr. "Phytochemical Mimicry of Reproductive Hormones and Modulation of Herbivore Fertility by Phytoestrogens." *Environmental Health Perspectives* 78 (1988): 171–75.

Mechoulam, R., R. W. Brueggemeier, and D. L. Denlinger. "Estrogens in Insects." *Experientia* 40 (1984): 942–44.

Rodgers, Kathryn M., Ruthann A. Rudel, and Allan C. Just. "Phthalates in Food Packaging, Consumer Products, and Indoor Environments." In *Toxicants in Food Packaging and Household Plastics: Exposure and Health Risk to Consumers*, edited by Suzanne. M. Snedeker, 31–59. New York: Humana Press, Springer-Verlag, 2014.

Smith, Rick, and Bruce Lourie. *Slow Death by Rubber Duck: How the Toxic Chemistry of Everyday Life Affects Our Health*. Toronto: Alfred A. Knopf Canada, 2009.

Trimel, Suzanne. "Estrogen Emerges as Most Ancient of All Hormones." *Columbia University Record*, May 4, 2001, 2–4.