

The Dirty Mind of Materials Scientists

Illustration

Materials Scientists need to have dirty minds. Pursuing their profession (which is to make you happy with new materials and products) they almost always need to mess up pure innocent crystals to get them to perform the way you want it. It is a demanding and responsible job so it is no wonder that our (dirty) minds every now and then need to look at some other stuff. That can even happen while we work:

"An electron will recombine with a hole deep in the valence band, emitting a photon if it is a direct transition". The wife, peeking over my shoulder, was reading out loud from the Hyperscript I was just composing. "Little did I know that you scientists have such a dirty mind when you do your thing" she announced, "are you perhaps meeting little cute holes too, somewhere deep in a valence band?"

Now who has a dirty mind here? While the juxtaposition of materials scientist and sex is not exactly an oxymoron (after all, we do reproduce), materials scientist have better things to do than to chase females (so we believe). Mathematicians now, they have a dirty mind, not to mention chemists. On second thoughts, forget the chemists. If you don't believe about the mathematicians, just look up the adventures of little convergent Polynomia, and her encounter with the operator Curly Pi. It's just disgusting how he integrated her up to the asymptotic limit.

Only civil engineers, perhaps, are purer in mind (if not body) than materials scientist. That insight comes straight from pondering what kind of engineer the designer of the human body might have been. One might guess it was a mechanical engineer, considering all the joints, or possibly an electrical engineer, appreciating the zillions of electric connections of the nervous system. But only a civil engineer would be capable to run a toxic waste pipeline through a recreational area, so that solves that question.

The wife actually knows her materials scientist or physicist (that's what I originally studied). One day, when I came home quite late with a torn shirt, hair messed up, and generally looking like hell, she wanted to know why? "Well", I said, "after I quit work for the day, a few friends and I went out to the bar for a few drinks. We met up with some rather good-looking young women, and started to drink to excess; things just kept happening, as you can well see. I sobered up enough to note how late it was, so I rushed home." What did she reply? "You liar!!", she said, "You were in the lab again and coming home you fell off your bike. Weren't you????!!!" She also knows that there is no such thing as a generic physicist when it comes to sex. I mean there are theoretical quantum physicists who do it with uncertainty, and there are the astrophysicists who do it with a big bang. Not to mention the Astronomers, who do it all night on mountain tops, or the mathematically inclined, who understand the theory of how to do it, but have difficulty obtaining practical results. Electron microscopists like me do it in the dark, of course,

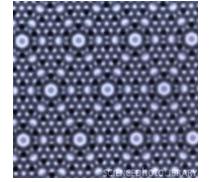


Most prominent picture found 7/2013 under "Materials Science and Sex"

It's not that our minds don't stray off the eclectic joys of materials science every now and then, even if it is more than now. But even then there is no reason to give up science entirely for just that. Dirty minds and pure science are easily reconciled, just consider for example our colleague Micro Farad, who decided to get a cute little coil to discharge him. Attracted by Millie Amps characteristic curves, he approximated her asymptotically and took her for a spin on his megacycle. They crossed the Wheatstone bridge with plenty of momentum, and still had sufficient kinetic energy left to oscillate their wave functions a few times before they made a transition, emitting some fully coherent photons. Their matrix elements increased exponentially, and soon he had her fully excited, approaching the inversion condition. He connected her to ground potential, lowered her resistance, raised her frequency, and finally started to increase the generation rate.

By now they were far off equilibrium. A large entropy current was flowing freely, heating up her her shunts, which were getting pretty hot. A bifurcation opened up and the transition to chaos was imminent. They started swirling around a strange attractor, and if they haven't renormalized by now, they might even reverse polarity and blow each other's fuses.

- See what I mean? Only problem is that while those electrons and holes might have fun at recombining, they also have a distinct advantage to real materials scientist: They always come in pairs. That cannot be said of real materials scientist and especially physicists - they almost exclusively come as unpaired males. Why physics is not attractive to females in general, and to attractive females in particular, is totally incomprehensible and counts among the major unsolved mysteries of physics. For some females, their dislike of physics even extends to a dislike of materials scientist, which might be just as well, because in all (unfortunately severely limited) experimental experience, these ladies cannot carry on a prolonged conversation about interesting items like steel grades, hardening mechanisms (except one), dark matter, super nova explosion, charm quarks or the newest electron microscopes.

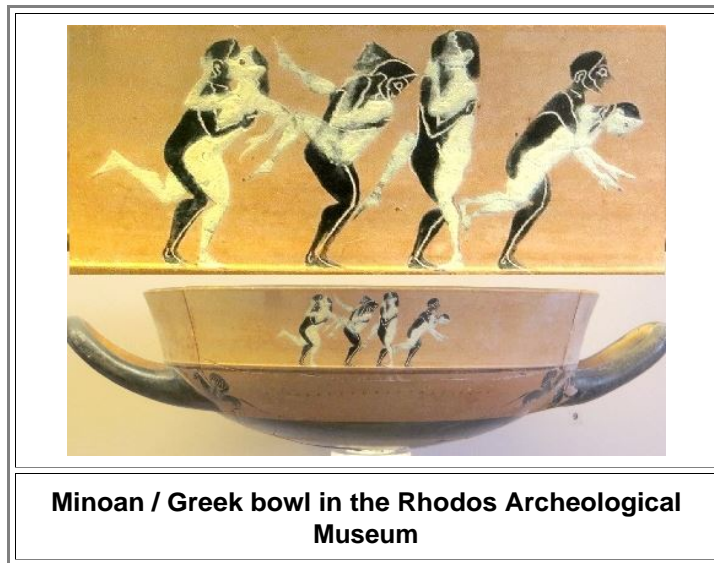


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- So dates tend to be dull, because what can you do all that time? (physicists also do it with the speed of light). There are a few ladies who can carry on an intelligent conversation, but their attractors, unfortunately, usually tend to be on the strange side everywhere, not just in phase space. "Aha", said te wife (again peeking over my shoulder), "I see. But what exactly did you find out about the inadequacies of, what's you call it, strange attractors in female form? And how about those hot shunts? Hmmm - I wonder, how it feels to be inverted?"
- So excuse me now. I've got this sudden urge to increase the generation rate, and that's easier while the shunts are hot.

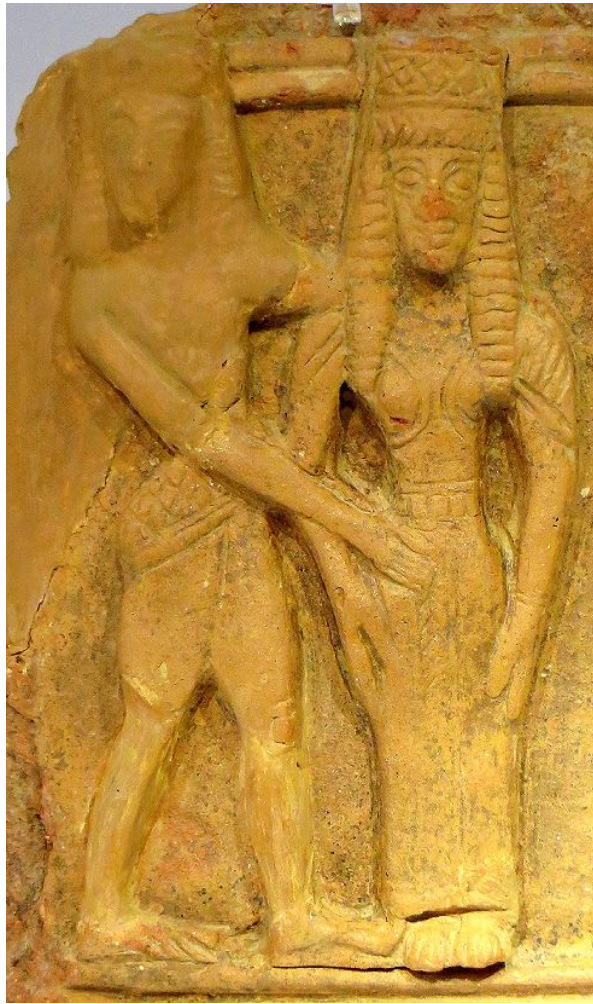
The Dirty Mind of The Ancients

- Materials Scientists might have unclean thoughts every now and then, yes indeed, but keep that pretty much to themselves. Not so for some ancient artists. Here are some samples of what one can find "on the side" in museums besides [Leda and her swan](#). Some other finds are [here](#) .



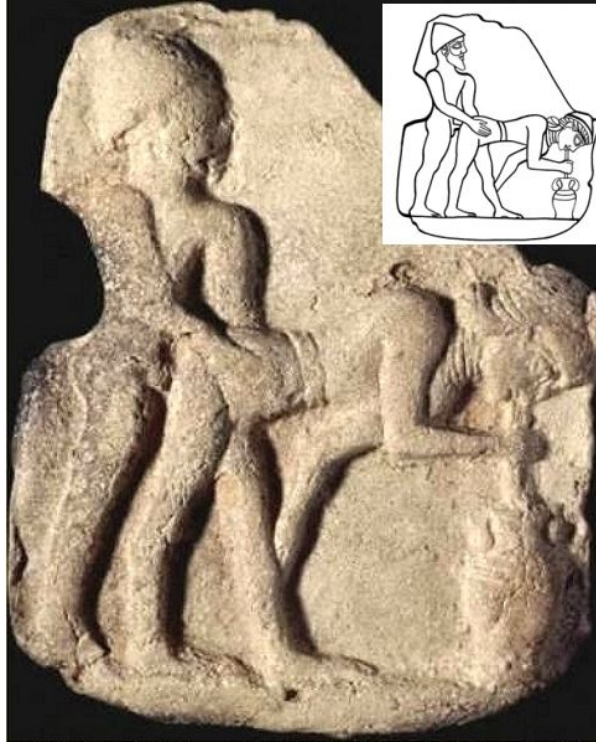
Minoan / Greek bowl in the Rhodos Archeological Museum

- Men are dark / black skin, women white, as was the [tradition](#) (especially in Egypt).



Knowing the best place in the [Heraklion museum](#)





Doing it while drinking beer around 2000 BC in Sumeria



Doing it without beer (possibly reading a good book instead?)

Mesopotamia, 2nd millenium BC

Source: Photographed in the Israel Museum in Nov. 2017

● We know that [making and drinking beer](#) was important for the development of the species. Doing what the couple above is doing was just as important for the continuation of the species. Combining both activities was quite common in Sumer, it seems - there is more artwork like that above and a number of poetic writing (in cuneiform). Sexual intercourse and beer-drinking are frequently connected in Sumerian poetry: "the barmaid's beer is sweet. Like her beer her genitals are sweet, her beer is sweet. Like her mouth her genitals are sweet, her beer is sweet. Her diluted beer, her beer is sweet" (Love Song for Shu-Suen)"

▣ The Old Egyptians didn't invent making papyrus just for writing holy texts and painting politically correct pictures. The Turin papyrus from around 1150 BC shows what was going on then:

