

BREAKING NEWS »

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SCIENCE AND TECHNOLOGY



The sympathetic vacuum cleaner

DE RERUM NATURA By Maria Isabel Garcia Updated April 16, 2009 12:00 AM

Finally, a household companion will "get it" without being told. Since the dawn of the history of human relationships, the sexes have always wondered when exactly they would get the response they have been requesting from each other. The wait has been going on for so long that both sexes are reporting that they are now getting "oh, so that is what you mean" to demands and requests they have made from each other 200,000 years ago.

As a woman, I am particularly aware of how much longer it seems to be for men to really "get it." When a geneticist named Steve Jones speculated in his book called "Y The Descent of Men" that men would disappear from the gene pool in about 125,000 years, a lot of women, including this writer, probably wondered if men would ever get it before they vanish in the genetic pool. But alas, three men, without knowing it, have taken a big step toward bridging this gap. In a feat of technological ingenuity that involved computer gaming devices, three male researchers from the University of Calgary finally found a way to respond to emotional signals coming from humans and they thought that a vacuum cleaner would be a good start. Yes, folks, men finally found a way to respond to emotional cards thrown at them by sympathetic cleaning via a robot. Trust men to come up with an engineering solution to a psychological matter.

Meet Roomba, the vacuum cleaner-cum-emotion reader. OK, I admit that it is no Sean Connery but Roomba can read muscle tension from the way the human in the room creases her forehead. If you were tense, Roomba will "know" it and it will not just stay out of your way but will also clean the house. It can sense it too if you were relaxed, and it will cuddle up to you like a pet. The makers of Roomba are from the University of Calgary and they published what Roomba can do in a study called "Using Bio-electrical Signals to Influence the Social Behaviors of Domesticated Robots." The researchers are Paul Saulnier, Ehud Sharlin, and Saul Greenberg. Roomba does not simply read your face. It reads signals coming from your "OCZ NIA neural impulse actuator" which looks like a headband that fell on your forehead. It is an "off-the-shelf, low-cost commercial interface designed for video game use that reads bioelectrical signals." It makes me wonder if it will be more realistic for women to sport those actuator headbands that could send signals to human male Roombas (men implanted with "emotionally sensitive" chips) whose vacuuming powers we want to enlist. I think it is very funny that these male researchers would think that the best response to detected stress in a companion is to vacuum. Wouldn't a stereo that detects moods and puts on the right music be a better response? How about a massager that turns on when you come in with an embattled look on your face? I am guessing that the next Roomba from these engineers will be capable of taking out the trash when it detects stress in its companion.

Apparently, according to Livescience writer Bill Christensen (March 28), Roomba comes from a line of attempts by technologists to come up with robots that can read emotions from verbal commands (nuances in the voice) or of autistic children. (I still cannot understand how humans can program a robot to understand autistic children without the humans themselves being able to understand autistic kids.) Roomba is a start but I think to be more realistic, Roomba should also have the all-too-familiar puzzled expression — the "huh?" look — when it is hopelessly lost in reading your mood.

Extensive research is being done on robots being able to read emotions. The study I just cited seems to be the first one to use bioelectric signals to read emotions. This is a case of a robot reacting to your emotional state rather than just being directly controlled to "stay away and clean" or to sit next to the person. In the late 90s, a robotics engineer in MIT named Cynthia Breazeal made a robot she called Kismet that could make eye contact, show distinct different facial features — like of sadness, anger and glee. It communicated only at the level of a human infant at best. I think Roomba stands on the shoulders of Kismet, in a chain of attempts of Artificial Intelligence to design robots that could interact with humans by "reading" them.

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COLUMNS

Blame DNA for thumb-wrestling



DE RERUM NATURA By Maria Isabel Garcia

If you have read

a lot of newspapers and news magazines in your life, you must have noticed that they seem to contain the same old story regardless of era — the headlines of coups d'etat, assassinations, wars, invasions, sections on famous marriages, divorces, births and deaths, corporations rising and falling, films and celebrities in fashion etc.

The National Science Complex: A strategic investment for higher education

STAR SCIENCE By Caesar Saloma, Ph.D.

The appropriation of necessary funds to complete the infrastructure requirements of the National Science Complex (NSC) and to operate and maintain it properly will be viewed as one of the key strategic investments made by the Philippine government and the Arroyo administration for higher education in the first decade of the 21st century.

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The male engineers of Roomba are clever. Rather than improve the emotional tango among humans within a household (which no one has solved in the entire history of human relationships), they would instead make emotionally sensitive cleaning Roombas.

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