



**CIVILIZATION: ACT 2**

*The time has come, the walrus said, "to talk of many things;" of shoes and ships and sealing wax, of cabbages and kings – and why the sea is boiling hot, and whether pigs have wings.* Lewis Carroll, 1871

The time is 1991. The place is a dark auditorium in Las Vegas. The wizard is Loren Carpenter, who has video cameras and computers watching the audience of 5,000, each of whom is holding a cardboard paddle – red on one side, green on the other. An immense video screen hangs on the front stage. The computers display each paddle and color by its location onto the screen. The audience fiddles, waves their paddles, and the screen dances with all the movement they create.

Carpenter boots up Pong on the screen and gives a single instruction, "Folks on the left side of the auditorium, left Pong paddle; folks on the right side, the right Pong paddle."

The audience rapidly discovers that each of them is a vote, each move of the Pong paddle is the average of all the votes. And here I quote the author:

"Without a moment's hesitation, 5,000 people are playing a reasonably good game of Pong. The sensation is unnerving. The paddle usually does what you intend, but not always. When it doesn't, you find yourself spending as much attention trying to anticipate the paddle as the incoming balls. One is definitely aware of another intelligence online."

The game goes faster, the audience adapts. Faster still, they learn instantly. Learning increases exponentially. The stakes go up; now it's a flight simulator on the screen – the audience flies, turns, lands a plane. No one is in charge. They flock. *Flock emerges from creatures completely oblivious to their collective number or shape.* How comes this unity? (Kevin Kelly: *Out of Control*, 1994)

The plaza is filled with thousands, chanting as one. In Hitler's Germany or the Ayatollah's Iran, the audience is exhorted to a single thought, a single voice by a single speaker. The audience, the very rhythm of thought and action is scripted, defined. Repetition becomes the gospel, emotion becomes belief, fear and anger provide the energy. Of one mind now, this audience can be led, used, discarded, by a single leader. This defines a mob, not a flock. There is joy – yes – fervor, yes . . . but only as directed.

A country fair. A fat, ready-for-market cow is to be the center of a contest: guess the net, dressed weight of the beef it will provide. The butchers are betting heavily, buying many guesses, as one would expect them to; they have an edge, you'd think. The farmers, wives, children and merchants also buy a chance. They, of course, have a broad range of guesses, far broader than the butchers' practiced eyes.

When all is done, the cow reduced to a final net poundage, no butcher wins. The average of all the random guesses by the uninformed townspeople is precisely the cow's dressed weight.\*

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\*Somewhere on my shelves is the source of this true story – suffice it to say that I'd attribute it if I could find the original.



What controls this? Why the so-obvious difference between a mob and a flock? How can unorganized consensus be better than expertise? Was Bill Buckley right when he said he'd rather be governed by the first 2,000 people in the Boston phone book than by the Harvard faculty?

Great leaping change is rare. To date, the single generation that had to cope with the most rapid physical change lived around the first half of the 19<sup>th</sup> century. In 1810, for example, nothing moved faster than a horse. As Steven Ambrose put it, “. . . had the Roman Legions set off up the Missouri River in 1804 . . . . all equipment save the rifle and sextant would have been identical to Lewis and Clark's.” Over only the last two centuries has economic growth and income per person doubled about every 40 years. Best guesses calculate that in the 13 centuries prior to 1800, personal income grew no more than one or two tenths of a percent per year. This means that real income doubled about every 500 years. No one saw change in their standard of living. You, your father, his father, your children, their children, all lived the same kind of life. Physical change was near non-existent.

Then came steam from about 1780 to the 1840s. Railways, 1840. Electricity, about 1890. At the turn into the 1900s, we saw the phone, the radio, cars. In 1900, about 80% of all jobs were manual, 20% or so cerebral. We know this was almost reversed in the following 100 years.

But this was just physical change – arrival of goods – most of it concentrated in half a century with sporadic distribution. Not all could afford electricity, not every car was finding paved roads. Perhaps most noticeable, though, was that kings remained. All through our time, Europe, Asia and the Middle East were a polyglot of empires, tribes, family dynasties and various flavors of dictatorships – some with telephones and electricity, some without.

“Of cabbages and kings” had me thinking about this bifurcation – this rapid change in things, but in only a few places was there a change in, literally, kings. Prior to the Berlin Wall coming down, one could have said that communism would be totally destroyed – when pigs fly. We were so certain the political order was, well, just the way it was. Pockets of desire for change arose – Burma, perhaps Viet Nam, maybe Formosa. These pockets of political or social change, however, were always led – a small core of instigators of one stripe or another mobilized others and sometimes succeeded. In any case, exhortation was key – leaders voiced goals and dreams and some were persuaded, some weren't.

One can construct a number of examples of these induced movements. Harder to find are true flocks – groups who work in some unified fashion that is *single in purpose, leaderless, instantaneous and provides every participant feedback*. The engineer understands feedback circuits that correct and adjust themselves as they are used. Most of us use one daily – ABS brakes.

For the non-automotive types, we are told that in a panic-stop situation, heavy continuous pressure on the brake pedal is best as the system will sense if you skid and fractionally ease pressure automatically until contact is properly re-established. Pumping an ABS brake system is wrong and dangerous. Feedback, in this case mechanical, is a beautiful thing, but just mechanical.

Is there such a thing as non-mechanical, shall we say philosophical feedback that is this instantaneous? How comes this unity, as Kelly asked? Is there a screen on a stage somewhere that shows what our cardboard paddle is doing?

In nature, schools of fish, flocks of birds, herds of beasts, function as one – massive, coordinated flocks without apparent leaders. Recent studies show that, from moment to moment, a few participants challenge the space – the finite boundary between the members of the group and, as this undefined but well-established space is crowded, movement occurs. The crowding or closing of that space is not leadership because it occurs randomly throughout the flock, no single input is creating it. This struck me as remarkably similar to all the shouting and laughing in that Las Vegas auditorium – “more red!” – “more



red” – “hurry” – “no, turn, turn!” – messages most clear, but to no one in particular, from no one in particular.

In the political world of the Middle East and Africa, life takes one of two broad forms – religious or tribal. In all the recent decades of material change, these peoples essentially added only technology to an existing order. From Cuba to Bahrain, the order of things was dictated: a leader would make all decisions and any attempt to suborn that frequently saw bloodshed. (Exactly the same set of circumstances exist in the stock and bond markets: a set of “rules” exist about efficient markets, et al, yet behavioral finance grows stronger daily in spite of this “perceived wisdom.”)

How comes this unity? Many believe it's the Internet, the great social gathering place of Twitter and Facebook. I think this gives the Internet far more credit than it deserves. In this context the internet is, to my mind, only a feedback loop that is providing all involved no more than “more red” – “more red” – “turn, turn!” **No one cares who says what** – it's just the shouting of these 5,000 souls 20 years ago in Las Vegas – noise. The results, the action, is on the new screen – the streets.

I see in that Las Vegas auditorium the future of our time. I believe that we now have a global feedback loop growing; people around the world are beginning to land that plane in the flight simulator. It will happen fast. It will involve China, all the Middle East, Africa and South America. Yemen, Libya, Bahrain, Saudi Arabia, Syria, all are about to flock. Mobs are evolving into flocks. The massive significance of this change is the primary reason I remain a global investor. With free choice will come improvements in food, medicine, leisure, education – and all their issues and complications. Powerless individually, many people are looking for a means to a better life, looking for a feedback circuit. To date, the absence of leaders who understand that wish is nurturing flocking.

In the developed West we have moved cabbages, material change, as far as we can for the moment. Now we talk of remaining kings and whether pigs have wings. Globally, we may still be playing Pong, but flocking is here to stay. We are on the eve of the second most significant-ever shift in civilized life . . . stand by.

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