

**1: New Food-Ordering Formula Could Lead to Less Food Waste in Buffet-Style Restaurants on Vimeo**

*Thus our title: less haste, less waste. Our recycling computations are binary countersâ€™simple and yet fundamental constructs in computation. A new feature of our strand displacement constructions is a mutex synchronization primitive, which ensures that reactions proceed atomically in the sense that all products of one reaction have been.*

Received Oct 31; Accepted Jan This article has been cited by other articles in PMC. Abstract We study the potential for molecule recycling in chemical reaction systems and their DNA strand displacement realizations. Recycling happens when a product of one reaction is a reactant in a later reaction. Recycling has the benefits of reducing consumption, or waste, of molecules and of avoiding fuel depletion. We present a binary counter that recycles molecules efficiently while incurring just a moderate slowdown compared with alternative counters that do not recycle strands. This counter is an  $n$ -bit binary reflecting Gray code counter that advances through  $2^n$  states. In the strand displacement realization of this counter, the wasteâ€™total number of nucleotides of the DNA strands consumedâ€™is polynomial in  $n$ , the number of bits of the counter, while the waste of alternative counters grows exponentially in  $n$ . The proof applies more generally to show that in chemical reaction systems where all but one reactant of each reaction are catalysts, computations longer than a polynomial function of the size of the system are not possible when there are polynomially many copies of the system present. DNA computing, strand displacement systems, strand recycling 1. Introduction DNA strand displacement is a form of chemical reaction in which one or more single-stranded DNA moleculesâ€™the reactantsâ€™bind to a multi-stranded complex, thereby displacing other single-stranded moleculesâ€™the products. DNA strand displacements are important and versatile reactions that have already supported wet-lab simulation of logic circuits and DNA walkers and can in principle support general purpose computation in an energy-efficient manner [ 1 â€™ 9 ]. Such DNA strand displacement reactions, and chemical reactions more generally, typically consume strands or reactants at all reaction steps. Catalyst strands are an exception in that they are not consumed during the course of a reaction, but are recycled to perform the same operation multiple times. Can chemical reactions and their strand displacement system realizations recycle strands in more general ways? We show that the answer is yes: Our recycling computations are binary countersâ€™simple and yet fundamental constructs in computation. A new feature of our strand displacement constructions is a mutex synchronization primitive, which ensures that reactions proceed atomically in the sense that all products of one reaction have been released before the next starts. The second contribution of the paper is to demonstrate a limit to recycling: The rest of this introduction illustrates the concept of strand recycling and gives an overview of our results and related work. It advances in such a way that exactly one bit changes at each step and gets its name from the following property: We call the resulting sequence of states the Gray code sequence.

### 2: Love Food Hate Waste

*Less Haste, Less Waste. You have to be so careful about putting poems online on a personal website, because that does make them count as having been "previously published" and therefore ineligible for entry into competitions and most magazines and journals.*

These days, haste is considered a cardinal virtue. Everything must be done twice as fast. And if you can do it twice as fast, then why not double that speed? Everything must be fast, and cheap. That is how profits are maximized. We cannot overemphasize how destructive this ideology is. It is simply not true. In fact, it usually makes things worse. Objects created with haste are not built to last. They have a shoddiness. They will not stand the test of time. Work done with too much haste often contains errors. A car that is repaired hastily will probably just break down again soon. You will have to bring it back to the shop – thus wasting your time. Sometimes haste may truly be necessary. If humans had their way, they would speed everything up. Pregnancy would last three months, not nine. Trees would grow in a week. Thankfully, humans cannot have their way with everything, no matter how much your mad scientists labor to make it so. The addiction to speed is destructive. The fact that many humans feel required to utilize stimulants in order to fulfill their workloads is tragic – for stimulants, used on a daily basis, are destructive to the brain and body. For you will create work that is solid, strong, and built to last. There will be fewer errors. As a result, there will be much less waste.

### 3: Less Haste, Less Waste

*Less Haste, Less Waste: On Recycling and its Limits in Strand Displacement Systems* Anne Condon, Alan Hu, Jan Ma' nuch, and Chris ThachukË The Department of Computer Science.

Brain study provides new insight into why haste makes waste by David Salisbury Nov. The study was published Nov. Numerous behavioral and brain-mapping studies have supported a simple model: The brain uses the same basic method to make both deliberate and rapid decisions. In order to shorten the decision-making time, the brain simply reduces the cumulative amount of neuronal activity it requires before making a decision. Because the brain must make snap decisions based on less information than it uses for slower decisions, the likelihood that it will make mistakes increases. However, none of the previous experiments were capable of studying the decision-making process at the level of individual brain cells called neurons. Although it is easy to set up tests with human subjects that prompt them to switch between speedy and accurate decision making, the methods for measuring human brain activity do not have the required speed or resolution. On the other hand, it is possible to measure the activity of individual neurons in monkeys, but no one knew how to train them to vary the speed of their decision making. The scientists developed a method for teaching monkeys to switch back and forth between fast and accurate decision making in a task that involved picking out a target from an array of objects presented on a computer screen. In one experimental condition, monkeys learned that only accurate responses would be rewarded. In another condition, they learned that making some mistakes was okay, as long as the decisions were fast. Meanwhile, the researchers monitored signals from single neurons in their prefrontal cortex â€” the area in the brain dedicated to higher cognition. One â€” call it Fast Fury â€” is like Jeopardy. In order to answer a question you must be the first to hit the buzzer. This picture differs substantially with the standing theory that the brain uses the same process for all types of decisions. The activity of the prefrontal cortex neurons increases while observers decide how to respond. But the new data suggests that this activity is amplified during Fast Fury and suppressed during High Stakes Showdown. These unexpected results are controversial and important because they are at odds with currently accepted mathematical models of decision making, which are being used to understand psychiatric and neurological disorders. For example, people with certain types of brain damage seem to get stuck in a hasty, impulsive mode of deciding, and the models provide some indication for how this might happen mechanically in the brain. Heitz and Schall have shown how these mathematical models can be modified to make them consistent with the new results. So, does haste inevitably make waste? According to Schall, it all depends. But there are many situations in life when the cost of not acting is higher than making an error in judgment. Bronson Ingram Chair in Neuroscience.

## 4: New food-ordering formula could lead to less food waste in buffet-style restaurants

*Less Haste, Less Waste: On Recycling and Its Limits in Strand Displacement Systems. We describe how order, waste and haste grow as a function of  $n$ , the number of counter bits.*

I do recognize that the emissions from an airplane, even if Green Mountain offsets all corporate travel, are much larger than my small changes. If not now, then when? Healthier eating and fewer costs on the road: I usually treat myself to a soy latte in the airport. During the challenge, I just asked for hot water which most places offer for free in my reusable mug and added my own bag of tea. Granola and protein bars are a big go-to for me when I travel. These had to go because the wrapper has no second life. Instead, I made a couple of almond butter and jelly sandwiches and packed them in a re-sealable bag. Bamboo utensils and a reusable mug were a travel-essential during this challenge. Instant oatmeal packets are also my breakfast go-to on the road. The single-use wrapper put these on the sidelines for April too. Choosing instant-oats from the bulk bins and doctoring it with dried-berries made a flavor I actually like better than that found in the packets, and I could adjust the portion exactly to my liking. Hot water from the in-room coffee maker made it come to life tasting as good as it would from the packets! I have bamboo utensils I use regularly at the office. I never thought to travel with them until this challenge as a way to avoid disposable spoons at the hotel for my oatmeal and such. This has been a great adjustment to my travel routine. Convenience sometimes wins out and kills best intentions! During the first week of the Challenge, I had a late flight and really, really needed a pick-me-up. Horror of horrors, it was handed to me in a foam cup. Anyone who has ever done a street or waterway clean-up can attest to the how hard it is to clean up all the broken parts of the material. Grocery shopping reminded me how much packaging there is even when it comes to fresh fruit and vegetables. The plastic strawberry and mini-tomato containers we go through weekly add up! What I can do next time: Eat the Seasons Moving Forward: I still want to make my own non-dairy milk. This challenge also resulted in the Green Mountain HQ in Austin gaining an additional onsite recycling option! Did this challenge resonate with anyone? What do you do to minimize consumption of single-life products?

## 5: Haste Quotes (38 quotes)

*Less Haste, Less Waste: On Recycling and Its Limits in Strand Displacement Systems Anne Condon, Alan Hu, Jân Manĉnuch, and Chris Thachuk The Department of Computer Science.*

## 6: more haste, less speed - Wiktionary

*Less haste, less waste: on recycling and its limits in strand displacement systems Well, if certain tiles are required to "cooperate" in order to be able to bind.*

## 7: Success& Stumbles While Taking Haste For Less Waste

*Successes & Stumbles While Taking Haste For Less Waste As my day challenge to give everything a second life comes to an end, looking back I met with some successes and some stumbles. Disclaimer: most of my lessons were learned in the context of air travel.*

## 8: Haste Makes Waste: Why the Need for Speed Makes You Less Productive. | wordfromthewell

*Less haste, less waste: on recycling and its limits in strand displacement systems Anne Condon\*, Alan J. Hu, Jân Manĉnuch and Chris Thachuk Department of Computer Science, University of British Columbia, Vancouver.*

## 9: Less haste, less waste: on recycling and its limits in strand displacement systems

## NOT ORDERING IN: LESS HASTE, LESS WASTE pdf

*More Haste, Less Waste: Lowering the Redundancy in In particular, the term  $B(n,m)$  is often of the same order as, if not superseded by, the redundancy term  $R(n,m,t)$ .*

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