APPENDIX

ENDORSEMENTS and PAPERS

1. RUSSELL P. BLAKE

Wed, 14 Nov 2001 22:16:11
Subject: The Rodin Coil

To Whom It May Concern:

Two years ago I met Marko Rodin through a mutual acquaintance. Mr. Rodin shared some of his results with me at that time. It became clear to me that Mr. Rodin's work was a synthesis of numerical patterns which had previously been overlooked by conventional science and mathematics. In hopes of bridging the gap between Mr. Rodin's discoveries and conventional science, I put forth an analytical framework in which mathematical formulae generate the numerical patterns of the Rodin Torus. These formulae suggested that the Rodin Torus lies not just on the surface of the "doughnut" shape, but into the interior as well; in other words, the Rodin Torus is three dimensional.

This mathematical formulation is as yet incomplete, and the physical meaning of these numerical phenomena remain unexplored still. Yet in my career I have several times discovered new mathematical formulations which have led to new products. In the late 1970's I discovered Atomic Modeling which revolutionized computer performance modeling, measurement, and sizing. In the early 1990's I discovered new ways to express the time-dependent behavior of program code, which led to reductions of program code size of 50% of the original size for all programs to which it was applied. I mention these facts merely to convince the reader that my intuition has a history of success in the practical application of new mathematics.

Now I am completely convinced that the Rodin Torus will likewise lead to new and revolutionary advances in art and science. Mr. Rodin's work has suffered from a lack of adequate scientific attention, and I am sure that as the research momentum builds and the proper relationship between the Rodin Torus and conventional science is fully understood, both areas of endeavor will attain new heights. I am very much looking forward to playing a role in this adventure.

Russell P. Blake
Former Senior Researcher
Microsoft Research

RUSSELL P. BLAKE RESUME

MoneyFacts, Inc. (1/99 – present) *President.* Create and implement fee-only investment advisory and computerized investment consulting company.

Microsoft Corporation (10/1/88-1/3/96) *Senior Researcher, Advanced Technology (9/93-1/96).* Develop performance tools for optimizing all Microsoft products. Develop a Decision Theoretic system for the automatic detection of bottlenecks in computer systems (US patent pending). *Systems Performance Manager, Advanced Operating Systems (10/88-9/93).* Build and lead team for benchmarking, analysis, and tools for OS/2 and Windows NT performance optimization. Invent and co-develop Windows NT Performance Monitor. Invent Windows NT Code Profiler, Working Set Tuner (US Patent), and Synthetic Performance Test Bed (US Patent). Create the Winstone industry standard benchmark. Author the book *Optimizing Windows NT*: over 100,000 copies sold, translated into French, German, and Chinese.

Sun Microsystems, Inc. (1/87-10/88) *Director of Operations, Software Products Division.* Architect & create a department to handle software quality, release, publications, and facilities during explosive growth from 2 to 140 employees. Develop software life cycle process. Work with AT&T to develop a unified version of Unix.

Adaptive Intelligence Corp. (8/84-1/87) *Vice President, Engineering.* Manage software, electrical, and mechanical engineering to complete the construction of a high-precision assembly robot. Manage manufacturing, facilities, and field service for the construction of unique, high technology, turnkey automation systems.

Solaris Computer Corp (7/83-8/84) *Vice President, Software Development.* Recruit and manage a cohesive team of strong software professionals. Participate in corporate planning, including strategies, organization, philosophy, benefits, and departmental budgeting.

Tandem Computers, Inc. (8/77-7/83) *Manager of Software Performance Quality, Future Systems Division.* Design and implement the Xray Performance Monitor for a closely coupled, non-stop, expandable, multiple computer system. Design and lead development of the Envision Synthetic Workload Generator for system sizing. Design and develop language for predicting system size, and for evaluating and partitioning advanced designs. Build teams to assure performance and quality of new systems.

Hewlett Packard (1/73-8/77) *Project Manager, Performance Modeling and Analysis.* Build team and design plan for quality assurance of new operating system. Design and implement spooling facility as part of the system. Develop integrated batch/timeshare scheduling system for processor and virtual memory.

MS Computer Science (1972) University of Wisconsin, Madison, WI

BA Philosophy (1969) Antioch College, Yellow Springs, OH

RUSSELL P. BLAKE PUBLICATIONS

"Method and System for Automatic Bottleneck Detection", US Patent awarded November 1999, US Patent 6,067,412, May 2000.

"Method and System for Determining an Optimal Placement Order for Code Portions Within a Module", US Patent 5,752,038, May 1998.

"Method and System for Simulating the Execution of a Computer Program", US Patent 5,574,854, November 1996.

"Automating Detection of Bottlenecks in Computer Systems", Proceedings of the Conference on Uncertainty in Artificial Intelligence, Montreal, August 1995.

Optimizing Windows NT, Microsoft Press, Redmond, 1993, 581 pp.; 2nd ed. 1995, 660pp.

"Optimal Control of Thrashing", Proceedings of the ACM Conference On Measurement and Modeling of Computer Systems, Seattle, August 1982.

"Xray: Instrumentation for Multiple Computers", Proceedings of the International Symposium on Computer Performance Modeling, Measurement, and Evaluation, Toronto, May 1980.

"TAILOR: A Simple Model That Works", Proceedings of the ACM Conference On Simulation, Measurement, and Modeling of Computer Systems, Boulder, August 1979.

"Exploring a Stack Architecture", Computer, Vol. 10, No. 5, May 1977; reprinted in Advanced Microprocessors and High-Level Language Architecture, IEEE Computer Society, Los Angeles, 1986; 2nd. Ed. 1988.

"Tuning an Operating System for General Purpose Use", Computer Performance Evaluation, The Chemeleon Press, Ltd., London, 1979.

Woodbridge, Suffolk
United Kingdom
9 September 2001

Analysis of the Rodin Coil and it's Applications

Russ Blake

Introduction

I have reviewed previous and current work on the theories of Marko Rodin. Mr. Rodin has discovered a series of regularities in the decimal number system heretofore undocumented in mathematics. These patterns lay out on the surface and within the internal volume of a torus.

A number of scientists and engineers have voluntarily joined with Mr. Rodin over recent years to explore the implications of his findings.

The Rodin Coil

The Rodin Coil is a toroidal—or doughnut-shaped—form wound by wires in a pattern consistent with the number patterns discovered by Mr. Rodin. Toroidal shapes wound with wires are commonly used for inductors in electrical circuits, often for use in transformers. However the pattern of winding in a Rodin Coil is radically different from conventional toroidal coils. Experimenters have produced some samples of the Rodin Coil to measure the effects of this new approach to winding wires around a torus.

To understand these effects it is necessary to review just a little electrical theory. When a current is passing through a wire it creates a magnetic field around the wire. When a wire is coiled like a cylindrical spring, as though wrapped around a pencil, the magnetic fields from the turns of the coil reinforce each other to increase the strength of the magnetic field. When the coil is bent into a circle, so that the ends meet, the majority of the magnetic force is concentrated inside the coil. This is considered a benefit in electrical circuit design, since stray magnetic fields can upset the operation of other parts of the circuit.

In a conventional coil the windings lay one after another just like the windings of a cylindrical spring. In a Rodin Coil, the windings lie on the surface of the torus, but do not lie consecutively adjacent to each other. Instead they reach along the surface, through the central, doughnut hole area, and 30 degrees short of directly across the torus. This forms, in addition to the wires on the outer surface, a crisscrossing circle of wires in the center of the torus. (The central figure formed by the wires in the doughnut hole is really a polygon of 24 sides for each completed wrap of the coil: so many sides it is considered a circle.)

Due to the central circle of wires in a Rodin Torus, it naturally creates a greatly increased magnetic field in the center of the torus, when compared to a conventional coil wound with the same amount of wire. In addition the field generated is much more coherent, in the sense of being much more sensitive to a particular frequency of applied current. These properties are the basis for useful applications of the Rodin Coil, as well as for any limitations in its use.

All this having been said, it is worth noting that no one has as yet created a coil precisely conforming to Mr. Rodin's exacting recommendations, all of which derive from the numerical patterns he has discovered in the decimal number system. The effects of a really well constructed Rodin Coil remain untested.

Evolutionary Applications

There are a number of practical applications of the Rodin Coil that have the potential (no pun intended) for producing new, more efficient electrical devices. Producing these devices seems to require in some cases significant engineering effort, but no revolutionary scientific discoveries beyond what is known to date. These seem at first glance to fall into two distinct categories: motors and antennae; other possibilities may also exist.

Before enumerating these practical possibilities, we should mention that they all require using the Rodin Coil in a more or less conventional fashion. We do not intend here to describe in complete detail how a Rodin Coil is wrapped, as this is covered to some extent in supporting documentation. (Detailed engineering work on Rodin Coil design specification still needs attention.) Here we only wish to point out that in a "real" Rodin Coil, there are two wires used to form the wrap; these are not connected to each other, but rather each wire is connected to itself to complete a loop at the end of the wrap. Thus there is no way to extract current directly from these wires or to energize them directly with an external current. In this section on Evolutionary Applications we divert from the strict Rodin Coil design, and energize the coils in a more conventional fashion, by connecting the ends of the two loops to one or two current sources or sinks, so we can utilize and measure the coil's properties along the lines of conventional electrical engineering. In the next section, on Revolutionary Applications, we revert to the true coil design as envisioned by Mr. Rodin.

Motors

The increase in magnetic field over a conventional coil that is found with a Rodin Coil has been observed to be limited if the hollow torus is replaced by the ferrite core used in conventional electric motors. The reason is that the ferrite core reaches magnetic saturation, beyond which no additional magnetic field can be produced. Assuming this difficulty can be overcome by judicious choice of core materials, or that hollow cores can produce enough current, a motor based on the Rodin Coil could be markedly more efficient at generating electrical energy than a conventionally constructed electric motor. (The possibility of a hollow core electric motor is exciting due to the light weight of such a design.) Under this assumption, Rodin Coil motors would be useful in any application where energy consumption must be limited, such as marine, caravan, and space environments where available power sources are restricted; high pollution zones where fossil fuel consumption must be conserved; isolated or unmanned stations with limited fuel capacity and refueling difficulties; and portable motor-driven equipment of every description where battery weight is an issue.

No work has yet been done to create a motor using a Rodin Coil as a building block.

All of the work on Rodin Coils to date has been with 2D coils wrapped on the surface of a torus. Starting with the fact that the numerical patterns of the Rodin Torus has resulted in more efficient 2D coils, one can easily surmise that a layered torus wrapped in 3D

would achieve an even much higher efficiency. No work has yet been done on 3D toroidal coils.

Antennae

Rodin Coil antennae would be useful in any application where sensitivity to a particular frequency was important, and the form-factor of the Rodin Coil was acceptable. Portable communication devices for use in a wide variety of applications should benefit, since power requirements for boosting the antenna signals should be greatly reduced from standard antenna designs. By varying the points at which the coil is tapped, it may be possible to tune the antenna to a wide range of desired frequencies.

Work has been done in this area already, with significant successes reported.

No work has been done using 3D Rodin Tori for antennae.

Transformers

It might be possible to arrange multiple Rodin Coils so as to take advantage of the increased magnetic field at the center. This could result in more efficient, lower weight transformers.

Use of Rodin Coil transformers in standard electrical circuits may be difficult, however, since the very presence of the increase in magnetic field might cause a problem with other circuit elements. Significant shielding of Rodin Coil transformers would be required in any application involving multiple circuits, such as a radio receiver.

Electromagnets

There are a variety of applications for large electromagnets. These include mundane applications such as cargo transfer, scrap iron handling, and monorails, as well as the more exotic fields such as particle accelerators, magnetic cannon, and ion beam sources (including ion beam space drives.) Rodin Coil electromagnets would presumably produce a higher magnetic field than an equivalent conventional electromagnet, possibly benefiting these applications if form factor issues can be overcome. New applications may also be possible, since the orientation of the magnetic field is perpendicular to the field of conventional coils.

Revolutionary Applications

Various researchers have seen the Rodin coil as a solution to interesting problems in their diverse areas of expertise. Some of these ideas have little support in conventional scientific thinking. Nonetheless there are interesting possibilities which, should they bear fruit, would unlock new technologies.

The most compelling of these is the notion of a point energy source, or the extraction of energy from a vacuum. To most of us reared on the wisdom of conventional science, this is a fairly outlandish idea. One researcher, however, has presented detailed citations from a variety of physicists who support the notion, and base their support on what at first blush appear to be both established scientific experimental evidence, and sound theoretical principles.

If this idea were to bear fruit, it would usher in a new age of technology surpassing those brought on by such inventions as the steam engine, the internal combustion engine, and the electric power generator. It would surpass those important inventions because no fuel would be consumed in the creation of energy; instead, ambient energy would be focused on the desired application.

Theoretical Issues

Although considerable effort has been expended on diagramming the numerological patterns in Mr. Rodin's findings, little effort has been made in a number of areas which need further examination before the importance of the findings are fully comprehended.

For example research shows that there are 6 different combinations of series, which produce distinct implementations of Rodin's toroidal pattern in 2 dimensions. Nothing however indicates the physical meaning, if any, of thinking in terms of one series or another.

Additionally it remains unknown how many different ways there are to enumerate these series into 3D tori. Three such combinations have been enumerated, but it is unknown if there are more, and if so, how many. Also, as with 2D tori, it is not known what the physical implications of these various ways of building 3D tori are.

Finally, nothing has yet been accomplished which links Mr. Rodin's patterns to conventional scientific theories. The fact that utilizing this pattern does result in effective coil design is probably not an accident, but there remains an enormous gap between what is considered "known science" and Mr. Rodin's patterns. This remains true in spite of the application of these patterns to such diverse areas as plant growth and musical harmonics. Until a clear link between the Rodin Torus and known scientific theory is established, it may prove difficult to bring the full attention of the conventional scientific community to bear on solving any remaining problems.

These points are raised not to criticize a field in its infancy, but to illustrate the rich arena of study that remains immediately accessible to research. Doubtless any discoveries made in answering these questions will result in new areas of study to explore.

Prognosis

This report, and the supporting documentation on experiments using the Rodin Coil, should be submitted for review by a panel of technical experts from the fields of electric motor, antenna, transformer, and electromagnet design and manufacture. If these industry experts agree in principle with the prospects for Evolutionary Applications, there are sufficient immediate practical applications of the Rodin Coil to warrant the expenditure of funds. This is so much the case that funding should be considered more a venture capital investment than a charitable donation to a worthy cause, worthy though it may be.

In this case the strategic order of business is clear. First develop the most promising evolutionary applications into marketable products. Use the profits from these products to fund both less accessible evolutionary product development, and also theoretical

research and Revolutionary Application development. Should the latter bear fruit, the potential technological impact is, as previously discussed, enormous.

A detailed Business Plan, including the usual *pro forma* financial statements, should determine the precise level of funding required.

If the industry experts conclude that there are no evolutionary practical applications of the Rodin Coil, due perhaps to issues of manufacturing cost or insurmountable application difficulties, then the effort would perforce become somewhat more speculative. The more Revolutionary Applications of the design would remain to be explored, along with the more theoretical questions posed above. Nonetheless, although the effort might lose some of the self-funding appeal of the venture capital approach, the potential technological impact is still enormous. And that goal may be achieved more rapidly, since the effort would, at the outset, be focused on the ultimate objective, rather than giving priority to the more immediate concerns surrounding the development of a self-propelled start-up business enterprise.

In either case the effort requires a strong business manager of competent scientific training. The setting of priorities and the proper sequencing of the research efforts, along with the timely and appropriate expansion of research and development staff, require all the skills normally found in a high-tech start-up entrepreneur. This is essential for a proper utilization of funds devoted to the effort, as well as the most rapid development of results.