

Machine Tools

*Orchestral Instruments of America's Mass-Production
Symphony*

When the Almighty
happened to bemuse his wisdom
with playing shoot-the-works,
he opened with one hand the hot valve
of absolute energy
and with the other
the cold valve
of absolute time.

Now with seemingly deft attention,
and now with seeming abandon,
he valved them together
in variety of proportion—
out through the mixing spigot
of universe
to occur in the reservoir
of absolute space—
and the synthesis
no matter in what proportions
always combined
as degrees of motion.

However
that motion
is *only* measurable
in dimensional units
of energy, time, and space
which are mostly infra or ultra
to the dimensions
which the personal faculties of man
are accustomed to detecting
by direct sensing
and by conscious awareness
of relative comparisons
made by himself to
previously established measures of
any conscious experience
with motion.

Thus self-limited
he fails to comprehend
the astronomical speeds
of the infinite host
of heavenly bodies
which seemingly hang motionless
in his carelessly accepted
scenic environment.
"What do you mean, macrocosm?" he says
to his tiresomely thinking self.

He fails equally to comprehend
the exquisite speeds
at which infinite numbers
of atomic components
course
and which seemingly bulk

to his bored ego as
gross solids, liquids, or gases.
The microcosm, phooey!

He fully perceives a few score
of mediocre speeds,
for instance: his twenty-five-mile in four hours
marathon,
his four-hundred-mile in one hour flying
whose speed ramifications
are now scaring his limited imagination
almost to death,
and whose relatively slow propeller speed
he cannot even see.

He can see a *few* objects
illuminated by light, e.g.,
dust mote or elephant,
as these super whizzing
atomic universes
move slowly en masse
relative to man,
but he cannot see light
which moves at
five hundred thousand times
the speed of the fastest
moving propeller tip.

In like manner he hears
the slow motion of
air molecules
mechanically agitated
in expanding waves, propagated
by a diaphragm magnetically vibrated
by electron-stream motions

in turn valved by radio wave impulses,
which themselves in turn moving
at the speed of light
he also hears not.

But all anywhere about man,
within and without,
is eternally, ceaselessly motion,
whether he senses it or not,
and which God alone
seems to care that he know.

For God may reasonably be
slowly up-winding
that game of shoot-the-works
through the instrumentality of man;
or failed by man,
possibly through
some other animate specie or process
like aurora borealis
cosmic electrolysis.

For, though sensing motion
only relatively
and that to limited degree
man has nevertheless measured
and fixatingly accumulated,
first by subconscious storage
later by records in books
his constantly re-experienced
engagements with motion,
such as with the days,
tides and heart beats,
and finally music.

Finally man has accumulated
sufficient knowledge of certain proportions
of time and energy
and of their respective
special relationship behavior
to selectively segregate
and reassemble
those constitutents for himself.

In such a manner
has man
learned to control
motion
external to his own body-motions
to a meager degree,
directly by tangible devices.

But as uncounted increment
have his faculties gained
distinct new abilities
through momentum of faith
in effort of learning
from events as they happen
further to capture and
segregate for immediate or later use,
in portional recomposition
non-directly sensed units of motion
by intellectually selected operations
of those firsthand devices.

So amplified in degree
are these quantities of motion
captured by faithful extension
of both ends of the sensibly charted scales
beyond the sensorial limits

as progressively to place
a working measure
of the original omnipotent power
within man's conscious control.

This control is in turn pyramided,
in direct proportion
to man's witting appreciation
of his reorderingly creative potential;
at least to the extent of
dynamically balanced composure
of those areas of environment
seemingly valved off
by original ad lib.
of the almighty.

But there are those
who cogently argue
that man still falteringly progresses
by the two forward and one back
locked-step of
an active inferiority complex.

But any way
we may choose to argue,
the fact is unaltered that
man has already captured
harnessed and put to work
what is relatively
a whole lot of motion.

He has already devised
certain mechanical extensions
of his integral mechanics,
one thousand square miles of whose

bearing surfaces
are now all in motion
relative to
one thousand square miles
of their complimentary
supporting and controlling
mechanical surfaces.

And between these two
one thousand square miles
of intimate surfaces
occurs
the boundary layer
within whose special dimensions
time and energy
war for supremacy—
with wisdom
as match maker
referee and judge.

And their battle
is vastly more vital
at this particular stage of the game
of shoot-the-works
than that simultaneously occurring
within the dimensional space
of several million square miles
of most fertile farm land
of the earth's own boundary layer.

For somewhere between
nature's random dispersion
of the ninety-two chemical elements
as simply constituting
the panorama first viewed by Adam—

as seemingly motionless except for himself,
and through which now flies an airplane—
somewhere between that original dispersion
and the magnificent composure
in orderly arrangement of
those dynamic elements
not only in structure
and mechanics of the airplane
but also throughout
the innumerable processes and instruments
involved in wresting the plane
from the raw countryside,
and thereafter maintaining
its useful passages between
chosen loci;
there must be, by mathematical law,
a weakest link.

In converting one hundred tons
of raw broad countryside
into five tons
of scintillating airplane-in-flight,
the machine-tool is specifically
that link
in the industrial chain of events.

In the machine-tool operations
the *final* pounds, ounces, and litres
of twenty to one
tonnage reduction
of materials
exquisitely occurs.

Here are prepared
the mechanical surfaces

between which time and energy
are masculated.

And here man and his wisdom
must be the master.
Yet there are few of his members
qualified for such mastery.
And there creaks incisively
today's weakest link.

Where there is creaking
there is dominant friction;
and where friction is dominant
there time is winning out over energy—
cold death is strangling
warm life.

And that weakest link
creaks at its one end
with the rusting substance
of *experienced artistry*
and at the other
with the frustrated tendon
of fatiguing *knowledge*
required respectively
to both *operate* and *design for*
the machine tools
with sufficient speed,
flexibility and precision,
efficiency and reliability,
to keep pace with
all the other functions of industrial survival.

As the routine industrial functions
become ever more simple
and of less labor

as consolidated result
of all the time harnessed
machine-tool technology
the pinch becomes more excruciating
at the machine-tool operator's
station itself—
a station and its baggage master
too easily forgotten
by man
as he dozes by
in his streamlined express
of ever more carelessly
limited stops.