

METAMAGICAL THEMAS

*The music of Frédéric Chopin: startling
aural patterns that also startle the eye*

by Douglas R. Hofstadter

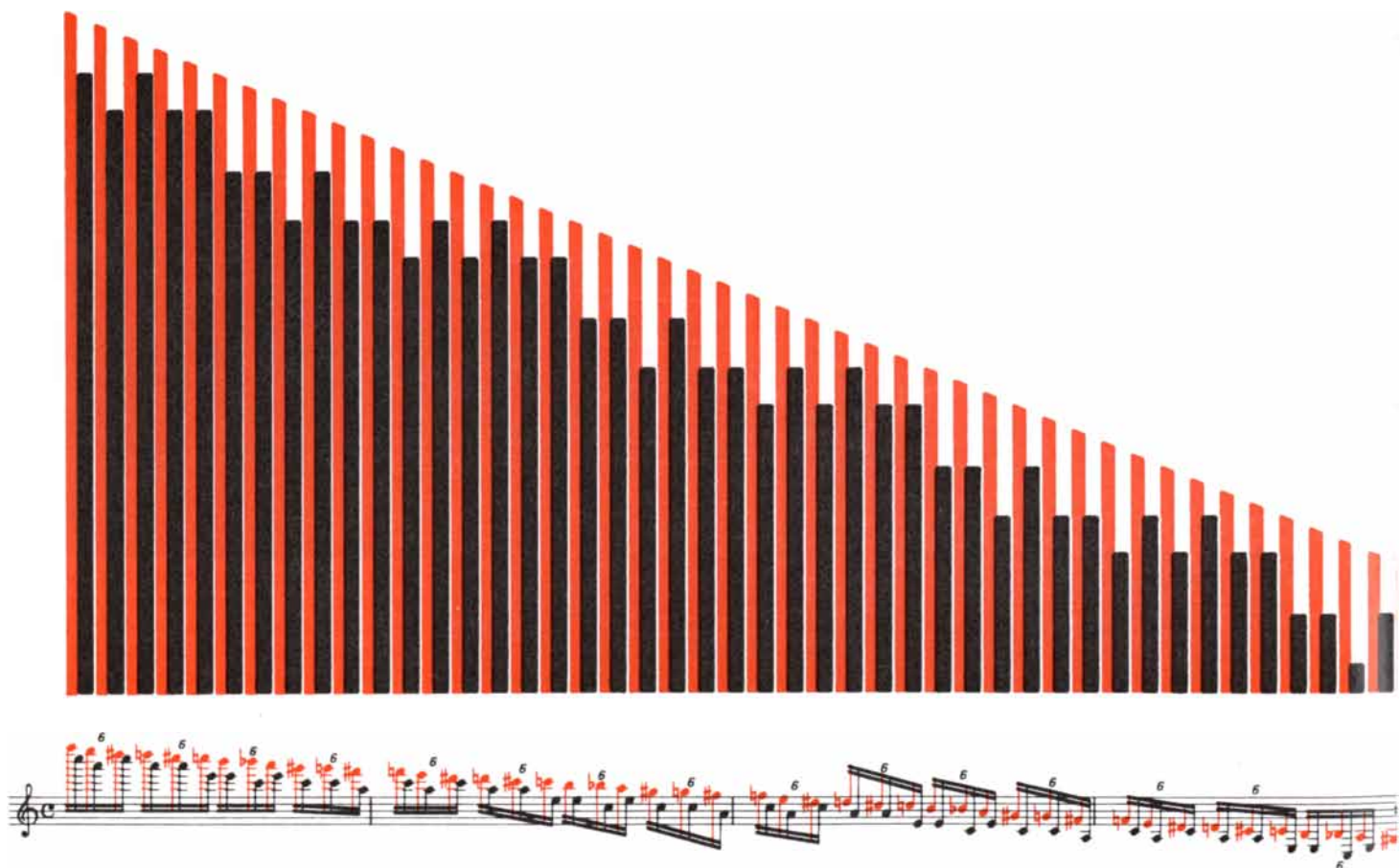
The abstract visual pattern of the music running across the bottom of these two pages is the first eight bars of one of the most difficult and lyrical pieces for piano ever composed, namely the 11th étude in A minor from Frédéric Chopin's Opus 25, written in about 1832 when he was in his early 20's. As a boy I heard the Chopin études many times over on my parents' record player, and I quickly grew to love them. They became as familiar to me as the faces of my friends. Indeed, I cannot imagine who I would be if I did not know these pieces.

A few years later, as a teenage piano student, I wanted to learn to play some of these old friends. I went to the local music store and found a book of them. I shall never forget my reaction on opening the book and looking for my friends. They were nowhere to be found! I saw nothing but masses of black notes and chords: complex, awesome visual patterns that I had never imagined. It was as if, expecting to meet old friends, I had instead found their skeletons grinning at me. It was terrifying. I closed the book and left, somewhat in shock.

I remember going back several times

to the music store, each time pulled by the same curiosity tinged with fear. One day I worked up my courage and actually bought that book of études. I suppose I hoped that if I simply sat down at the piano and tried playing the notes I saw, I would hear my old friends, albeit a little slowly. Unfortunately nothing of the kind happened. In general I could not even play the two hands together comfortably, let alone re-create the sounds I knew so well. This left me disheartened and a little frightened at the realization of the awesome complexities I had taken for granted. You can look at it two ways. One way is to be amazed at how human perception can integrate a huge set of independent elements and "hear" only a single quality; the other is to be amazed at the incredible skill of a pianist who can play so many notes so quickly that they all blur into one shimmering mass, a "co-hear-ent" totality.

At first it was bewildering to see that "friends" had inside them anatomies of such overwhelming complexity. But looking back, I don't know what I expected. Did I expect that a few simple chords could work the magic I felt? No; if I had thought it over, I would have realized this was impossible. The only possible source of that magic was in some kind of complexity—patterned complexity, to be sure. And I think the



The opening of the 11th étude from Chopin's Opus 25 is printed out (bottom) by a computer program developed by Donald Byrd.

experience taught me a lifelong lesson: that phenomena perceived to be magical are always the outcome of complex patterns of nonmagical activities taking place at a level below perception. In other words, the magic behind magic is pattern. The magic of life itself is a perfect example, emerging as it does out of patterned but lifeless activities at the molecular level. The magic of music emerges from complex, nonmagical—do I mean “metamagical”?—patterns of notes.

Having bought the volume, I felt drawn to it, wanted to explore it somehow. I decided that, hard work though it might be, I would learn an étude. I chose the one that was my current favorite—the one pictured—and set about memorizing the finger pattern in the right hand, together with the patterns that follow it, making up the first two pages or so. I played the pattern literally thousands of times, and gradually it became natural to my fingers, although never as natural as it had always sounded to my ears—or rather to my mind.

It was then I first observed the amazing subtlety of the lightning flash of the right hand, how it is composed of two alternating and utterly different components: the odd-numbered notes (shown

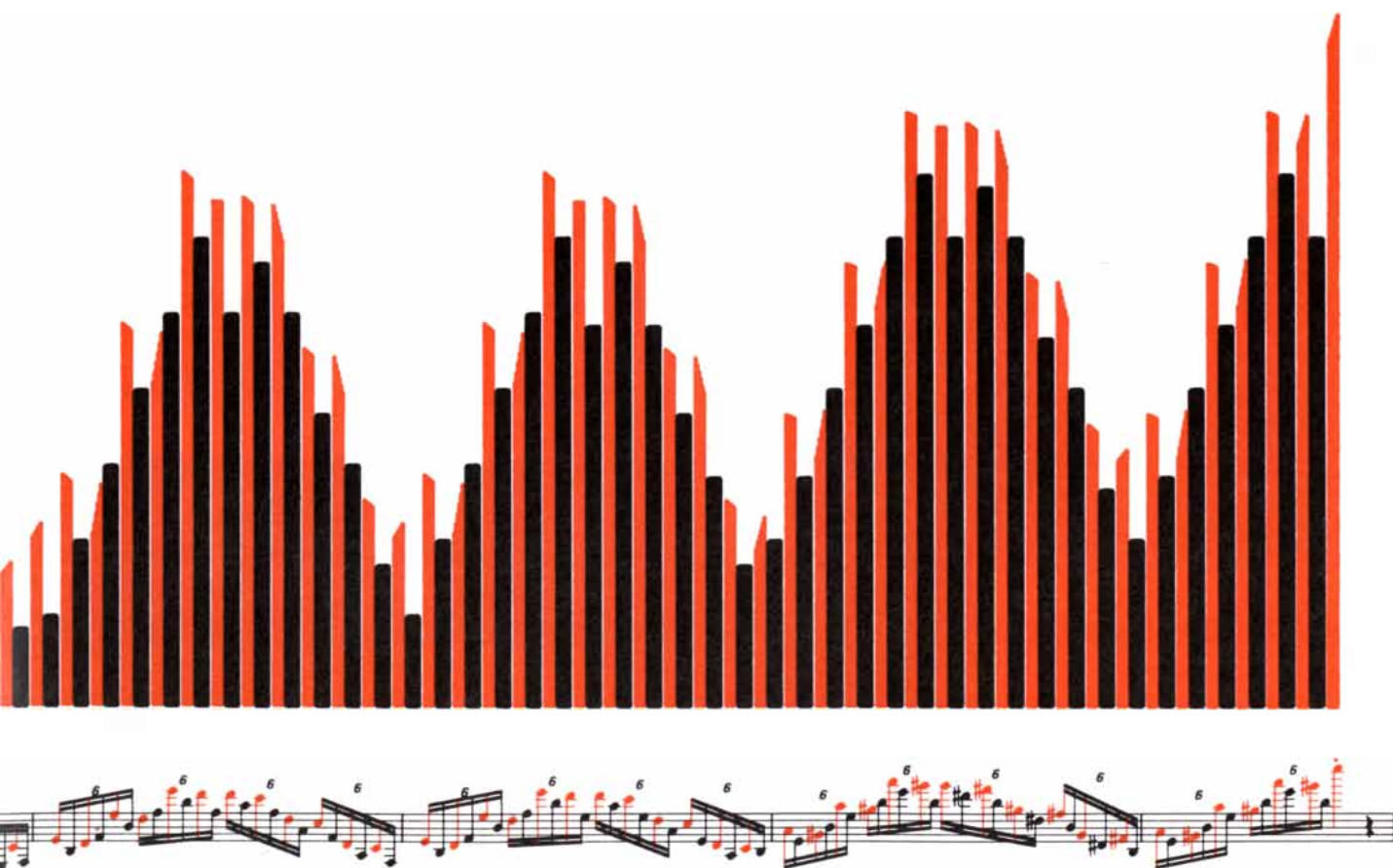
in color in both the bar graph and the musical notation below it) trace out a perfect descending chromatic scale for four octaves, while the even-numbered notes (shown in black), wedged between them like pickets between the spaces in a picket fence, dictate an arpeggio with repeated notes. To execute this alternating pattern the right hand flutters down the keyboard, tilting from side to side like a swift in flight, its wings beating alternately.

A word of explanation. On a piano there are 12 notes (some black, some white) from any note to the corresponding note one octave away. Playing them all in order creates a “chromatic” scale, as contrasted with the more familiar diatonic scales (usually major or minor). These latter involve only seven notes apiece (the eighth note being the octave itself). The seven intervals between the successive notes of a diatonic scale are not all equal. Some are twice as large as others, yet to the ear there is a perfect intuitive logic to it. Rather paradoxically, most people can sing a major scale without any trouble, uneven intervals notwithstanding, but few can sing a chromatic scale accurately, even though it “ought” to be much more straightforward, or so it would seem, since all its intervals are exactly the same size. The chromatic scale is so called because the

extra notes it introduces to fill the gaps in a diatonic scale have a special kind of “bite” or sharpness to them that adds color or piquancy to a piece. For that reason a piece filled with notes other than the seven notes belonging to the key it is in is said to be chromatic.

An arpeggio is a broken chord played one or more times in a row, moving up or down the keyboard. Thus it bears a resemblance to a spread-out scale, a little like someone bounding up a staircase three or four steps at a time. Chopin’s music is filled with both arpeggios and chromatic passages, but the intricate fusion of these two opposite structural elements in the 11th étude struck me as a masterpiece of ingenuity. And what is amazing is how it is perceived when the piece moves quickly. The chromatic scale comes through loud and clear, forming a smooth “envelope” of the pattern (your eye picks it out too), but the arpeggio blurs into a kind of harmonic fog that deeply affects one’s perception, if only subliminally, or so it seems at least to the untrained ear.

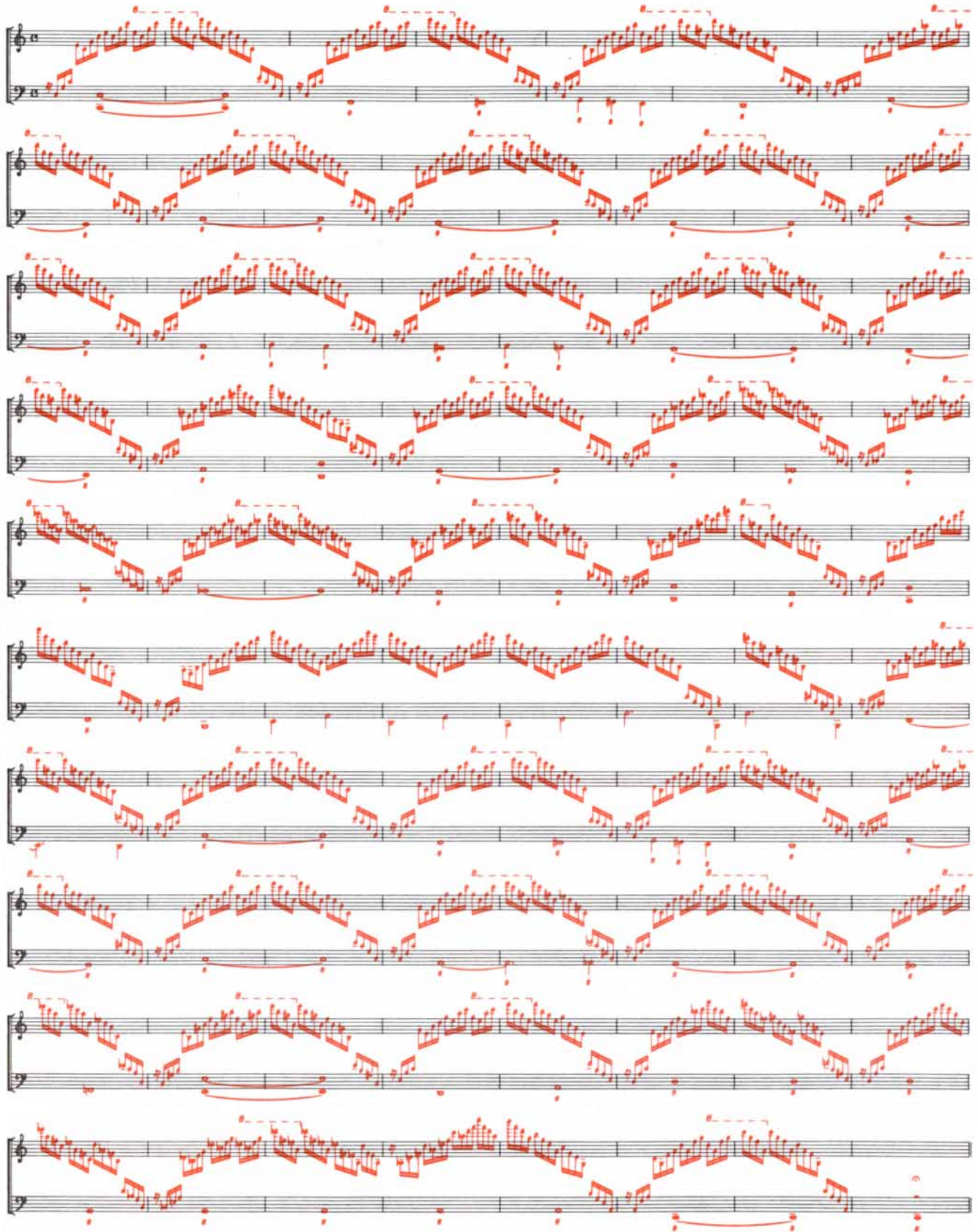
Each étude in the book I bought has a characteristic appearance, a visual texture. This was one of the most striking things about it at first. I was not at all accustomed to the idea of written music as texture; the simple pieces I had played up to that time were slow, so that ev-



The colored vertical bars at the top trace the rise and fall of the odd-numbered notes; the gray bars, that of the even-numbered ones

ETUDE

F. CHOPIN



Chopin's étude Op. 10, No. 1, in C major is printed out so that its waves are in phase

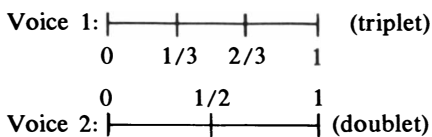
ery note was distinctly heard. In other words, those pieces were coarse-grained compared with the fine grain of a Chopin étude, where notes often go by in a blur and are merely parts of an auditory gestalt. Conversion of this kind of auditory experience to notated music sheets often yields quite stunning textures and patterns. Each composer has a characteristic set of patterns the eye becomes familiar with, and these études provided for me a stunning realization of that fact.

Sadly, I was forced to abandon étude Op. 25, No. 11, after having learned a little more than a page—it was simply too hard for me. James Huneker, an American critic and one of Chopin's first English-language biographers, said of this study: "Small-souled men, no matter how agile their fingers, should not attempt it." Well, whatever the size of my soul, my fingers were not agile enough. For a while that discouraged me from attacking any more Chopin études at all. A few years later, however, when I was working more earnestly on improving my modest piano skills, I came across an isolated Chopin étude in a book of medium-difficult selections. It turned out to be one of three études he had composed later in life, none of which had been on my parents' records. This was a find indeed! Luckily its texture looked less prickly, its pace less forbidding. Somewhat gingerly I played through it very slowly and discovered that it was astonishingly beautiful and not as inaccessible as the others I had tried.

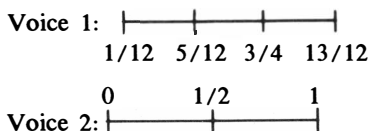
Like the rest of Chopin's studies, this one is centered on a particular technical point, although to think of the études primarily in that way is like thinking of the gymnastic performances of Nadia Comaneci as mere setting-up exercises. Louis Ehlert, a 19th-century musicologist, wrote of one of the most beautiful études in Opus 25 (the sixth one, in G-sharp minor): "Chopin not only verifies an exercise in thirds; he transforms it into such a work of art that in studying it one could sooner fancy himself on Parnassus than at a lesson. He deprives every passage of all mechanical appearance by promoting it to become the embodiment of a beautiful thought, which in turn finds graceful expression in its motion." And so it is for this easier, posthumously published étude in A-flat major, whose chief technical concern is the concept of "three against two," a special case of the general concept of polyrhythm.

Mathematically the concept is simple enough: play two musical lines simultaneously, one of them sounding three notes to the other's two. Usually the triplet and the doublet are aligned so that they start at the same instant. When they are both plotted on a unit interval,

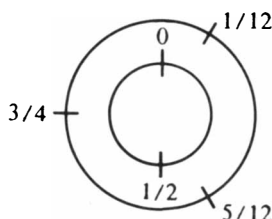
you can see that the doublet's second note is struck halfway between the triplet's second and third notes. Of course, this is simply a restatement of the fact that $1/2$ is the arithmetic mean of $1/3$ and $2/3$:



In theory two voices playing a three-against-two pattern need not be perfectly aligned. If you shift the upper voice by, say, $1/12$ to the right, you get a different picture:



Here the triplet's third note starts halfway through the doublet's second. As you can see, the triplet extends beyond the end of the interval, presumably to join onto another identical pattern. We can fold the pattern around and represent its periodicity in a circle:



By rotating either of the concentric circles like a knob we get all possible ways of hearing three beats against two. In Chopin and most other Western music, however, the only possibility exploited is where the triplet and doublet are perfectly "in phase."

At first I found the three-against-two rhythm hard to perform exactly. One has to learn how to hear the voices separately, to hear the lilt of the three-rhythm weaving itself into the square mesh of the two-rhythm. Of course, it is easy to hear when someone else is playing; the trick is to hear it in one's own playing! In principle the task is not hard, but it is one of coordination that requires practice. I found that once I had mastered the problem of playing the two rhythms evenly and independently I could play the entire étude. To play it—or to hear it—is like smiling through tears, it is so beautiful and sad at the same time.

It is impossible to pinpoint the source of the beauty, needless to say, but it is certainly due in part to the way the chords in the right hand flow into one another. Almost all the way through the piece the right hand plays three-note chords (six to a measure) against single notes by the left hand (four to a mea-

sure). The delicacy of the piece comes from the fact that very often when one chord flows into the next one, only a single note changes. And to add to the subtlety of this slowly shifting pattern, usually the steps taken by the shifting voice are single scale steps rather than wide jumps. These "rules" do not hold all the way, of course; there are numerous exceptions. Nevertheless, there is a uniform aural texture to the piece that imbues it with its soft melancholy, known in Polish as *tesknota*.

It is interesting to speculate about the extent to which such formal considerations occurred to Chopin while he was composing. It is well known that Chopin revered Bach's music. "Always play Bach," was his advice to a pupil, and he was particularly devoted to the Well-Tempered Clavier, a paragon of elegant formal structures. Chopin confided to his friend Eugène Delacroix, the painter, that "the fugue is like pure logic in music.... To know the fugue deeply is to be acquainted with the element of all reason and consistency in music." Clearly Chopin loved pattern.

A stunning demonstration of Chopin's extreme awareness of the visual appeal of the textures in his études is provided by the manuscript of his étude Op. 10, No. 1, in C major, one about which Huneker wrote, in his inimitable prose:

"The irregular, black, ascending and descending staircases of notes strike the neophyte with terror. Like Piranesi's marvelous aerial architectural dreams, these dizzy acclivities and descents of Chopin exercise a charm, hypnotic, if you will, for eye as well as ear. Here is the new technique in all its nakedness, new in the sense of figure, design, pattern, web, new in a harmonic way. The old order was horrified at the modulatory harshness, the young sprigs of the new fascinated and a little frightened. A man who could explode a mine that assailed the stars must be reckoned with."

That neophyte might well have been me. Huneker's words form an amusing contrast with what the 19-year-old Chopin himself wrote of this, his first étude, in a letter to his friend Tytus Woyciechowski in 1829: "I have written a large exercise in form, in my own personal style; when we get together, I'll show it to you." A finished copy, believed to be in Chopin's hand, is now in the Museum of the Frédéric Chopin Society in Warsaw. Under the present conditions in Po-



Threes beat against twos in A-flat major étude



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The étude Op. 25, No. 2, was written in threes (top) but can be played in twos (bottom)

land it would be difficult to reproduce it directly. Fortunately Donald Byrd of Indiana University has developed a computer program that can print out music according to specification. With his marvelous program, and with the help of Adrienne Gnidec and me, Byrd has printed the music in such a way as to reproduce the large-scale visual patterns of Chopin's own manuscript, in which he took great care to align all the crests of the massive waves. When this piece is played at the proper speed, each sweep up and down the keyboard is heard as one powerful surge, like the stroke of an eagle's wing, with the notes at each crest sparkling brilliantly like wing tips flashing in the sun.

Another interesting feature of Chopin's notation, copied here, is his positioning of the octave whole notes in the bass. Instead of placing them at the very start of each measure, aligned with the sixteenth-note rests, Chopin centers each one in its own measure, thereby creating an elegant visual balance but losing some notational clarity. Musically the centering has no effect. Since a whole note lasts for the duration of an entire 4/4 measure, it must be struck at the start of the measure, otherwise it would overflow into the next measure, and that is impossible. Or rather, it would violate a much more rigid convention of music notation, namely that no note can designate a sound that overflows the boundaries of its measure.

Hence the only interpretation possible is that the whole note is to be struck at the outset. In other words, the centering is simply a charming artistic touch with a quaint 19th-century flavor, like the ornaments on a Victorian house. The modern music-reading eye is used to more functional notation; in particular it expects the staff to be in essence a graph of the sound in which the horizontal axis is time. Thus notes struck simultaneously are expected to line up vertically.

But let us return to the matter of Chopin's preoccupation with form and structure. Few composers of the romantic era have penned such visually patterned pages, have spun a whole cloth out of a single textural idea. With Chopin, however, preoccupation with strict pattern never took precedence over the expression of heartfelt emotions. One must distinguish, it seems to me, between "head pattern" and "heart pattern," or, in more objective-sounding terms, between syntactic pattern and semantic pattern. The notion of a syntactic pattern in music corresponds to the formal structural devices used in poetry: alliteration, rhyme, meter, repetition of sounds and so on.

The notion of a semantic pattern is analogous to the pattern or logic that underlies a poem and gives it reason to exist: the inspiration, in short. That there are such patterns in music is as undeniable as that there are courses in the theory of harmony. Yet harmony theory has

no more succeeded in explaining such patterns than any set of rules has yet succeeded in capturing the essence of artistic creativity. There are words to describe well-formed patterns and progressions, but no theory yet invented has even come close to creating a semantic sieve so fine as to let all bad compositions fall through and to retain all good ones. Theories of musical quality are still descriptive and not generative; to some extent they can explain in hindsight why a piece seems good, but they cannot enable someone to create new pieces of quality and interest. It is nonetheless fascinating, if not downright compelling, to try to find certain earmarks of greatness, to try to understand why one composer's music reaches in and touches one's innermost core and another composer's music leaves one cold and unmoved. It is a mystery.

After learning the posthumous A-flat étude I felt encouraged to tackle some of the others. One of the ones I had loved the most was Op. 25, No. 2, in F minor. To me it was a soft, rushing whisper of notes, a fluttering like the leaves of a quaking aspen in a gentle breeze. Yet it was not just a scene of nature; it expressed a human longing, a melancholy infused with strange and wild yearnings for something unknown and remote—*tesknota* again. I knew this melody inside out from many years of hearing it, and I looked forward to transferring it to my fingers.

After a couple of months of practice my fingers had built up enough stamina to play the piece fairly evenly and softly. This was very satisfying until one day an acquaintance for whom I was playing it commented, "But you're playing it in twos—it's supposed to be in threes." What she meant by this was that I was stressing every second note rather than every third. Bewildered, I looked at the score, and of course, as she had pointed out, the melody was written in triplets. But surely Chopin had not meant it to be played in threes! After all, I knew the melody perfectly. Or did I? I tried playing it in threes. It sounded strange and unfamiliar, a perceptual distortion the like of which I had never experienced.

I went home and took out my parents' old record of the Chopin études Opus 25 (played by a wonderful but hardly remembered pianist named Alexander Jenner). I put on the F minor étude and tried to hear which way he played it. I found I could hear it *either* way. Jenner had played it so smoothly, so free of accent (as it is said Chopin did), that one really could not tell which way to hear it. All of a sudden I saw I knew *two* melodies composed of the same sequence of notes! I felt myself to be very fortunate, because now I could experience this familiar old melody in a fresh new way. It



Ballade in F minor has flags flying on every fourth note (color) in the treble clef

Remember when life was so simple?

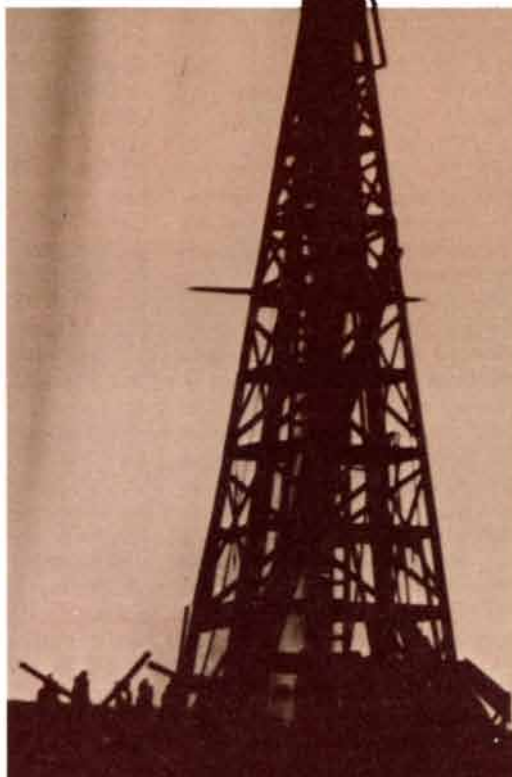
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Melody of A-flat major waltz in twos (color)

was like falling in love with the same person twice.

I had to practice hard to undo the bad habits of “biplicity” and replace them with the indicated “triplicity,” but it was a delight. The hardest part, however, was combining the two hands. With doublets in the right hand this had presented no problem; all the accented notes fell in coincidence with notes in the left hand, moving at exactly half the speed of the right hand in a pattern of widespread arpeggios. But if I were to spread my accents thinner, so that I accented only every *third* note of the right hand, then many of the notes in the left hand would be struck simultaneously with weak notes in the right. This may sound simple enough, but I found it very tricky. The difference is shown in the top illustration on page 22 (which like most of the others in this article was created by Byrd’s program at Indiana University).

Even after mastering the right-hand solo in triplets, I found that when I put the parts together, it was at first nearly impossible to keep from softly accenting the melodic notes coinciding with the bass. It was a fearsome task of coordination, yet I enjoyed it greatly. After a while something just “snapped into place,” and I found I was doing it. It was not something I could consciously control or explain; I simply was playing it right all of a sudden.

In Huneker’s commentary on this etude he quotes Theodor Kullak, another Chopin specialist, on the “algebraic character of the tone-language” and then adds: “At times so delicate is its design that it recalls the faint fantastic tracery made by frost on glass.”

Chopin’s music is filled with such “algebraic” tricks of cross-rhythm. He seemed to revel in them in a way that no previous composer had. A famous example is his iconoclastic waltz Opus 42 in A-flat major, written in 1840. In it the bass line follows the usual oom-pah-pah convention, but the melody of the first section completely counters this threeness; its six eighth notes, instead of being broken up into three pairs aligned with the left hand’s bounces, form two triplets, as in the F minor étude I have been discussing. Here, however, in contrast to the nearly accentless shimmering that is desired in the étude, the initial notes of successive triplets are to be clearly emphasized and prolonged, thus creating a higher-level melody (shown in color in

the illustration at the left) abstracted out of the quietly rippling right hand. This melody is composed of two notes per measure, beating regularly against the three notes of the waltzing bass. It is a marvelous *trompe l’oreille* effect and one that Chopin exploited again in his E major scherzo, Opus 54, written in 1842, when he was 32.

In that same year Chopin wrote what some admirers consider to be his greatest work: the fourth ballade, in F minor. The piece is filled with noteworthy passages, but one in particular had a profound effect on me. One day, long after I knew the piece intimately from recordings, a friend told me he had been practicing it and wanted to show me a bit of tricky polyrhythm that was particularly interesting. I was actually not that interested in hearing about polyrhythm at the moment, and so I did not pay much attention when he sat down at the keyboard. Then he started to play. He played only two measures, but by the time they were over I felt that someone had reached into the very center of my skull and caused something to explode deep down inside. This “bit of tricky polyrhythm” had undone me completely. What was going on?

Of course, it was much more than just polyrhythm, but that is part of it. As you can see in the plot of the measures in the bottom illustration page 22, the left hand forms large, rumbling waves of sound, like deep ocean waves on which a ship is sailing. Each wave consists of six notes, forming a rising and falling arpeggio. High above these billows of sound a lyrical melody soars and floats, emerging out of a blur of notes swirling around it like a halo. This high melody and its halo are actually fused together in the right hand’s 18 notes per measure. They are written as six groups of three, so that in each half measure nine high notes beat against the six-note ocean wave below—already a clear problem in three-against-two. But look: on top of those flying triplets there are eighth-note flags placed on every *fourth* note! Thus there is a flag on the first note of the first triplet, on the second note of the second triplet, on the third note of the third triplet, on the fourth note of the fourth triplet. . . . Well, that cannot be. In fact, the fourth triplet has no flag; the flag goes to the first note of the *fifth* triplet, and the pattern resumes. Flags waving in wind, high on the masts of a sailing ship.

This wonderfully subtle rhythmic construction might, just might, have been invented by anyone, say by a rhythm specialist with no feeling for melody. And yet it was not. It was invented by a composer with a supreme gift for melody and harmony as well as for rhythm, and this can be no coincidence. A mere “rhythms hacker” would not have the sense to know what to do

with this particular rhythm any more than with any other rhythmic structure. There is something about this passage that shows true genius, but words alone cannot define it. You have to hear it. It is a burning lyricism, having a power and intensity that defy description.

One must wonder about the soul of a man who at age 32 could write such possessed music—a man who at the tender age of 19 could write such perfectly controlled and poetic outbursts as the études of Opus 10. Where could this rare combination of power and pattern, this musical self-confidence and maturity, have come from?

In search of an answer one must look to Chopin’s roots, both his family roots and his roots in his native land, Poland. Chopin was born in a small and peaceful country village 30 miles west of Warsaw called Żelazowa Wola, which means Iron Will. His father, Nicolas (Mikolaj) Chopin, was a Frenchman by birth but had emigrated to Poland and had become an ardent Polish patriot (so ardent, in fact, that he had participated in the ill-fated insurrection led by the national hero Jan Kiliński in 1794 against the Russian occupation of Warsaw). Chopin’s mother, Justyna Krzyżanowska, was a distant relative of the rich and aristocratic Skarbek family, who lived in Żelazowa Wola. She lived with them as a family member and took care of various domestic matters. When Mikolaj Chopin came to be the tutor of the Skarbek children, he and Justyna met and married. In addition to being a gentle and loving mother she was as fervent a Polish patriot as her husband and also had a romantic and dreamy streak. They had four children, of whom Frédéric, born in 1810, was the second. The other three children were girls, one of whom died young of tuberculosis, which was to finally claim Frédéric as well, at age 39. The four children doted on one another. All in all Chopin had a very happy childhood.

The family moved to Warsaw when Frédéric was very young, and there he was exposed to culture of all kinds, since his father was a teacher and knew university people of all disciplines. Frédéric was a fun-loving, spirited boy. The summer he was 14 he spent away from home in a lilac-filled village called Szafarnia. He wrote home a series of letters gleefully mocking the style of the *Warsaw Courier*, a gossip provincial paper of the times. One item from his “Szafarnia Courier” ran as follows (in full):

“The Esteemed Mr. Pichon [an anagram of Chopin] was in Golub on the 26th of the current month. Among other foreign wonders and oddities, he came across a foreign Pig, which pig quite specially attracted the attention of this most distinguished Voyageur.”

Chopin’s musical talent, something he

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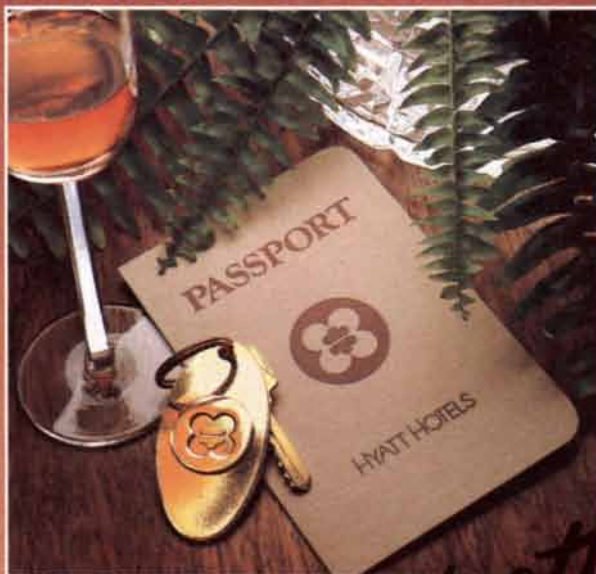
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shared with his mother, emerged very early and was nurtured by two excellent piano teachers, first by a gentle and good-humored old Czech named Wojciech Żywny and later by the director of the Warsaw Conservatory, Józef Elsner.

Chopin grew up in the capital city of the "Grand Duchy of Warsaw"—what little remained of Poland after it had been carved up, in three successive "partitions" in the late 18th century, by its greedy neighbors, Russia, Prussia and Austria. The turn of the century was marked by a mounting nationalistic fervor; in Warsaw and Cracow, the two main Polish cities, there occurred a series of rebellions against the foreign occupiers, but to no avail. A number of ardent Polish nationalists went abroad

and formed "Polish Legions" whose purpose was to fight for the liberation of all oppressed peoples and to eventually return to Poland and reclaim it from the occupying powers. When Napoleon invaded Russia in 1806, a Polish state was established for a brief instant; then all was lost again. The Polish nation's flame flickered and nearly went out totally, but as the words to the Polish national anthem proclaim, "Jeszcze Polska nie zginęła, póki my żyjemy." It is a curious sentence, built out of past and present tenses, and literally translated it runs, "Poland has not yet perished, as long as we live." The first clause sounds fatalistic, as if Poland surely *will* perish, but not quite yet! Actually the connotations are not that despairing; a better overall

translation would be, "Poland will not perish, as long as we live."

The Poles are a people who have learned to distinguish sharply between the idea of themselves as a people and the idea of the land they live in. The "Polish nation" represents a spirit rather than a piece of territory, although of course the nation came into existence because of the bonds between people who lived in a certain area. It is the fragility of this flickering flame, and the determination to keep it alive, that Chopin's music reflects so purely and poignantly. There is a certain fusion of bitterness, anger and sadness called *żał* that is uniquely Polish. One hears it, to be sure, in the famous mazurkas and polo-

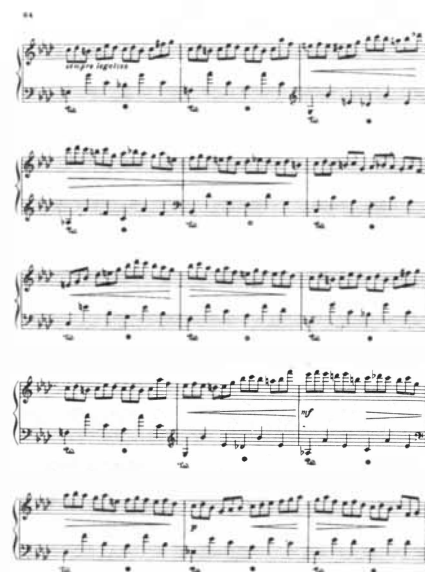
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naises, pieces Chopin composed in the form of national dances. The mazurkas are mostly smaller pieces based on folk-like tunes with a lilting 3/4 rhythm; the polonaises are grand, heroic and martial in spirit. But one hears this burning flame of Poland just as much in many of Chopin's other pieces, for example in the slow middle sections of such pieces as the waltzes in A minor (Op. 34, No. 2) and A-flat major (Op. 64, No. 3), the pathos-filled prelude in F-sharp major (Op. 28, No. 13) and particularly in the middle part of the F-sharp minor polonaise (Opus 44), where a ray of hope bursts through dark visions like a gleam in the gloom. One hears *zal* in the angry, buzzing harmonies of the étude in C-sharp minor (Op. 10, No. 4), and in the passion of the étude in E major (Op. 10, No. 3). In fact, Chopin is said to have cried out on hearing this piece played in his presence, "Ó ma patrie!" ("O my homeland!")

But aside from the fervent patriotism of Chopin's music there is in it that different and softer kind of Polish nostalgia: *tesknota*. It is his yearning for home—for his childhood home, for his family, for a dream-Poland that at age 20 he had left forever. In 1830, at the height of the turmoil in Warsaw, Chopin set out for France. He had a premonition that he would never return. Traveling by way of Vienna, he made slow progress. When things boiled over in late 1831, when in September, 1831, the Russians finally crushed the desperate Warsaw insurrection, Chopin was in Stuttgart. On hearing the news he was overwhelmed with agitation and grief, partly out of fear for the fate of his family, partly out of love for his stricken homeland. He wavered about going back to Poland and fighting for his nation, but the idea eventually receded from his mind.

It was at about this time that he composed the 12th and last étude of his Opus 10. Of this étude Chopin's Polish biographer Maurycy Karasowski wrote: "Grief, anxiety and despair over the fate of his relatives and his dearly beloved father filled the measure of his sufferings. Under the influence of this mood he wrote the C minor étude, called by many the 'Revolutionary Étude.' Out of the mad and tempestuous storm of passages for the left hand the melody rises aloft, now passionate and anon proudly majestic, until thrills of awe stream over the listener, and the image is evoked of Zeus hurling thunderbolts at the world."

This is pretty strong language. Huneker echoes these sentiments, as does the French pianist Alfred Cortot, who in his famous Student's Edition of the études refers to the piece as "an exalted outcry of revolt... wherein the emotions of a whole race of people are alive and throbbing." I myself have never found this étude as overwhelming as these au-

thors do, although it is unquestionably a powerful outburst of emotion. If someone had told me that one of the études had come to be known as the "Revolutionary Étude" and had asked me to guess which one, I would certainly have picked one of the last two of Opus 25, either No. 11 in A minor, the one pictured at the beginning of this article, with its tumultuous cascades of notes in the right hand against the surging, heroic melody in the left hand, or else No. 12 in C minor, which sounds to me like a glowing inferno seen at night from far away, flaring up unpredictably and awesomely. As for the actual "Revolutionary Étude," I have always found its ending enigmatic, fluctuating as it does between major and minor, between the keys of F and C, like an indecisive thunderclap.

Still, this piece, like the martial A-flat major polonaise (Opus 53), has become a symbol of the tragic yet heroic Polish fate. Wherever and whenever it is played, it is special to a Pole, whose heart beats faster and whose spirit cannot fail to be deeply moved. I shall never forget how I heard it nightly as the clarion call of Poland, when I would try to tune in Radio Warsaw from Germany in 1975. Two measures of shrill, rousing chords above a roaring left hand, like a call to arms, were repeated over and over again as the call signal, preceding a nightly broadcast of Chopin's music. Nor shall I ever forget how the feeble signal of Radio Warsaw faded in and out, symbolizing to me the flickering flame of Poland's spirit.

However one chooses to describe it—whether in terms of *zal* and *tesknota*, *parietyzm* and polyrhythm or chromaticism and arpeggios—Chopin's music has had a deep influence on the composers of succeeding generations. It is perhaps most visible in the piano music of Alexander Scriabin, Sergei Rachmaninoff, Gabriel Fauré, Felix Mendelssohn, Robert and Clara Schumann, Johannes Brahms, Maurice Ravel and Claude Debussy, but Chopin's influence is far more pervasive than even that would suggest. It has become one of the central pillars of Western music, and as such it has its effect on the music perceived and created by everyone in the Western world.

In one way Chopin's music is purely Polish, and that Polishness—*Polishness*—extends even to foreign-inspired pieces such as his Bolero, Tarantella, Barcarolle and so on. In another way, though, Chopin's music is universal, so that even his most deeply Polish pieces—the mazurkas and polonaises—speak to a common set of emotions in everyone. But what are these emotions? How are they so deeply evoked by mere pattern? What is the secret magic of Chopin? I know of no more burning question.

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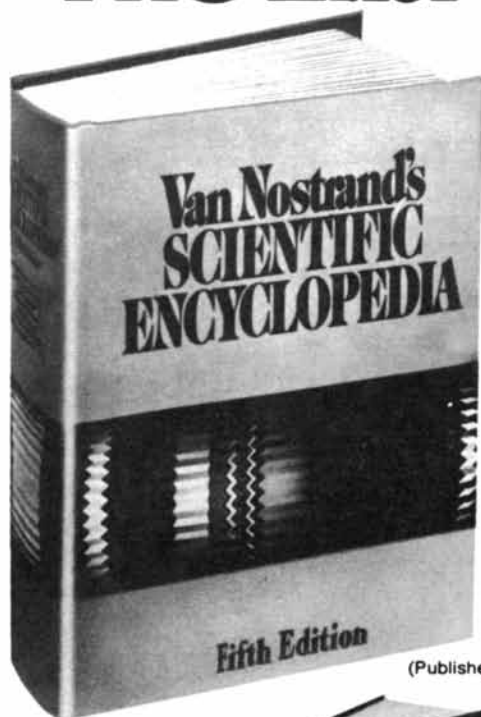
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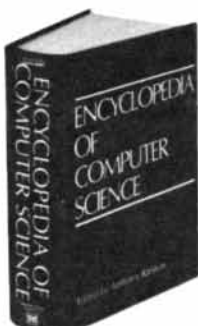
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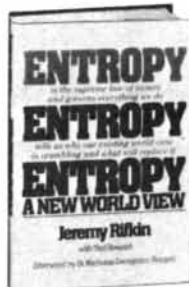
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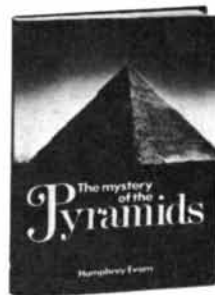
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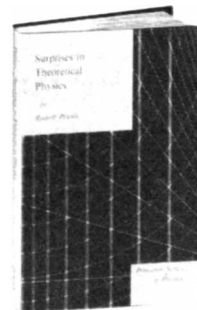
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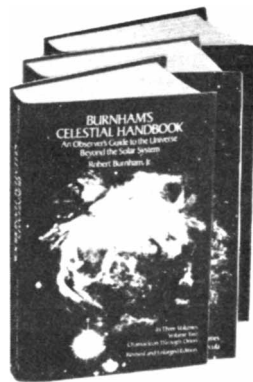
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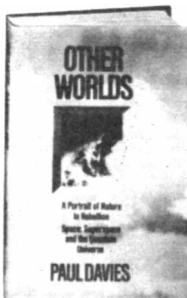
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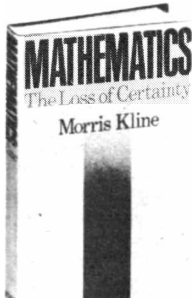
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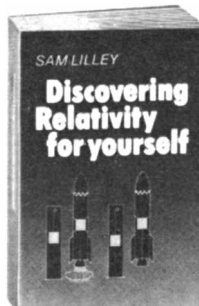
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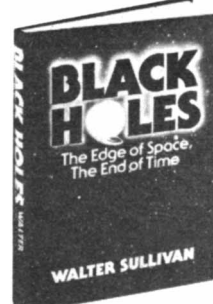
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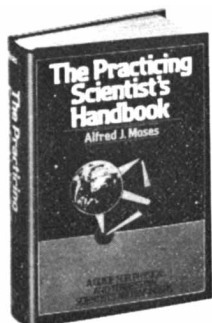
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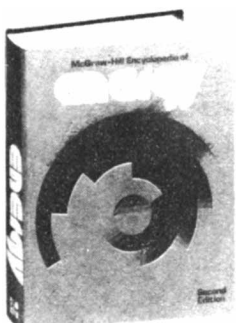
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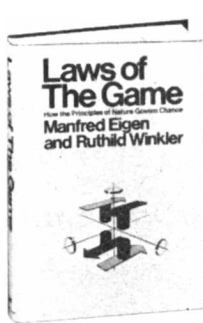
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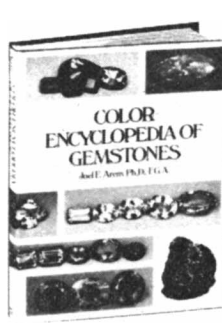
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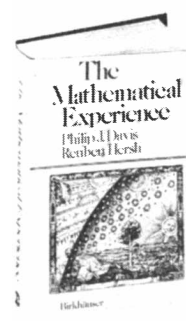
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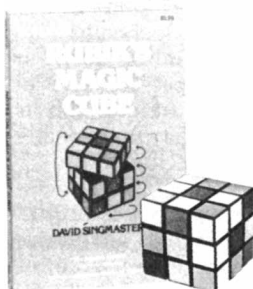
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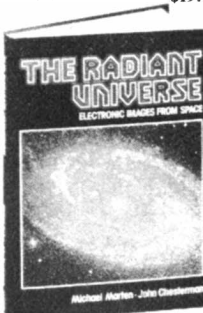
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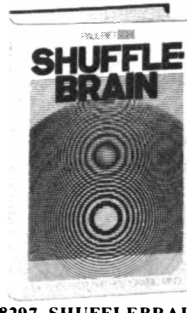
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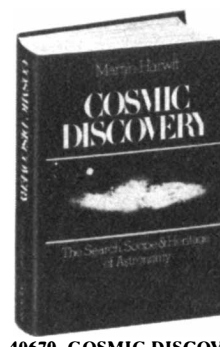
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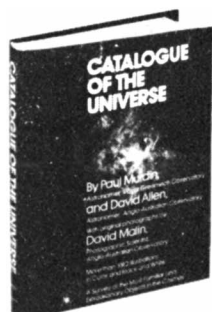
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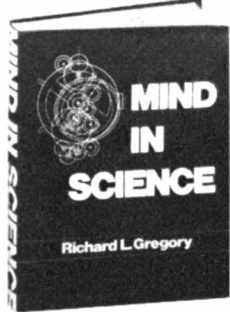
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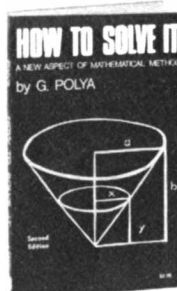
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