



## Solti's Ring Remastered: Ascent to Valhalla or Descent into Nibelheim?

By Michael Sherwin

*Der Ring des Nibelungen*. Soloists; Vienna State Opera Chorus; Vienna Philharmonic Orchestra; Georg Solti, conductor; 1958-1965. (Decca Deluxe Limited Edition 4783702; 19 discs [17 CDs, 1 Blu-ray audio, 1 DVD])

### Introduction

Decca's costly, deluxe 2012 reissue of Georg Solti's Ring has been touted by the company as "its most truthful remastering yet on both CD and lossless Blu-ray." It was released in the US in November 2012 to celebrate Solti's 100th anniversary and Wagner's 200th. Issued in a limited edition of 7,000 numbered copies (copy No. 1 was presented to the conductor's widow, Valerie Solti), the hefty, LP-sized 14-pound album bears a steep list price of about \$300. It comprises four folios:

1. *John Culshaw* – a copy of his behind-the-scenes book, "Ring Resounding."
2. *The Music* – containing 18 discs, including the newly remastered Ring on 14 CDs; Deryck Cooke's "Introduction to the Ring" on 2 CDs; a CD of Wagner Overtures (*Rienzi*, *Der fliegende Holländer*, and *Tannhäuser Overture and Bacchanale*), plus the chamber orchestra version of *Siegfried Idyll* and the rarely heard *Kinderkatechismus*; and a high-resolution Blu-ray audio transfer from the 1997 digital master tape with the entire 14-1/2 hours of the Ring improbably ensconced on a single disc.
3. *The Guides* – containing "The Golden Ring" (a BBC documentary DVD of the recording sessions); the written text of Cooke's "Introduction to the Ring" with printed musical examples; marked pages from Solti's scores; large-format session photos; and vintage reviews, ads, and articles from *Gramophone* magazine.
4. *The Libretti* – with printed synopses and German/English texts.

There has been a good deal of confusion and misinformation regarding the source materials used for this latest edition, compounded by incomplete or incorrect statements by Decca itself. Listener reaction to the sound quality of Decca's previous Ring CD reissues has been sharply divided. To establish whether the current luxury version truly represents a sonic improvement upon previous editions, I compared the original stereo LPs with the 1984, 1997, and new 2012 CD remasterings, plus the Blu-ray version. These appraisals were conducted on a colleague's high-end audiophile sound system, as well as on other equipment more representative of an average stereo system. (A list of associated equipment is appended to this article.)

Solti's Ring cycle has become a cultural icon. Recorded over a seven-year span from 1958 to 1965, it was the first complete Ring to be taped in the studio, in stereo, at a time when the commercial success of such a venture was far from assured and the cycle was largely unfamiliar to record buyers. Producer John Culshaw's canny evocation of "a theatre of the mind" imparted a reality and impact seldom achieved in the opera house. Solti's dramatic and expressive

conducting, abetted by the casting of the best possible Wagnerian voices of the day (among them Birgit Nilsson, George London, and Kirsten Flagstad), the incandescent playing of the Vienna Philharmonic, and state-of-the-art recording techniques, set new standards. According to Norman Lebrecht, as of 2007 the Solti Ring had sold over 18 million discs (of Solti's overall total of 50 million), the equivalent of more than one million copies of the complete cycle.

As with any complex work of art, Solti's Ring is not to all tastes and has not been without its detractors. Some listeners are repelled by the conductor's hard-driving intensity: his players nicknamed him "the Screaming Skull." The distinguished British critic Michael Tanner has derided "Solti's farting brasses"; an appellation as inelegant as it is inapposite to the golden horns of the Vienna Philharmonic. Nevertheless, the Solti Ring is a widely acknowledged benchmark that deserves – nay demands – the best possible treatment and sound restoration by Decca, its progenitor and custodian.

Initial indications as to the quality of the latest reissue were disturbing. A British writer stated that, regarding the 2012 reissue, he was "concerned about whether they used the same 1997 Cedar noise-reduced masters for the whole thing. No format or high resolution can save those horrors." Another UK writer commented: "I do not agree that the first CD transfer of *Das Rheingold* [1984] was all that bad. I preferred it to the later de-hissed version [1997], which I do find tiring to listen to." Most disappointing was a video advertising trailer for the new Solti Ring posted on the Internet by Decca. Listening to the "Ride of the Valkyries" on a high-quality computer audio system, I was dismayed by the artificial, "canned" quality of the orchestral sound, lacking in overtones. Particularly noticeable was the deleteriously altered timbre of the voices, making the recording seem treble-deficient and dated. Consequently, I decided to investigate whether the CDs of the new 2012 edition shared these shortcomings.

### **Methodology**

Prospective purchasers of the deluxe 2012 set have been led to expect that the sound of this newest edition is the best yet. They have the right to know whether it is a further advance, or a retreat from the sonic excellence of the original stereo LPs. To properly evaluate the sound quality of the newest 2012 deluxe Ring edition, I listened to: a) the original stereo LPs [analog]; b) the 1984 CDs; c) the 1997 CDs; d) the 2012 CDs; and e) the 2012 Blu-ray audio version.

To be fully comprehensive, I also compared multiple issues of the 1959 LP, 1984 CD, and 1997 CD versions of *Das Rheingold*. To my surprise, I found significant variability between different issues of the same edition. It is interesting that LPs or CDs of the same catalog number which are mastered at differing times or manufactured in various countries can sound so different. No wonder there is such diversity of critical opinion. Which edition sounds better depends on what version you have of the very same recording.

Although my auditioning was done on a high-end reference system to achieve the most accurate assessment of the Ring's sound quality, the conclusions reached could be affected by playing the recordings on other audio components: what is actually a dull recording might sound better on otherwise overly bright speakers or headphones, and vice-versa. Additionally, the differences I heard might not be as apparent on a modest stereo system with less resolving power; this was

particularly applicable to the 2012 CD remastering. My verdict must be: the 2012 version is the best yet, but not as good as it might have been.

### Comparisons

To compress the comparisons into a manageable time span, I carefully compared all the recorded versions of the following passages, one opera at a time:

*Das Rheingold*: Donner's "Heda! Hedo!" through to the end of the opera.

*Die Walküre*: Act 3 "Ride of the Valkyries."

*Götterdämmerung*: Brünnhilde's Immolation through to the end of the opera.

The following comments [except for the Blu-ray edition] apply to the various versions I auditioned of Solti's *Das Rheingold* (recorded 1958):

**1959 London Stereo LPs:** Two copies of *Das Rheingold* were compared, one issued when the set was first released in 1959, the other nearly a decade later. They had dissimilar cover designs but the same catalog number [OSA-1309]. The two versions sounded quite different. The earlier copy, issued only one year after the introduction of commercial stereo LPs, was mastered at a cautiously low volume level and suffered from rolled-off high frequencies, as if the engineers were apprehensive about the ability of early stereo playback equipment to track such a demanding recording. The later mastering was considerably louder, more dynamic, and had a much more extended frequency response, due to improved disc cutting heads and mastering amplifiers. I used this later mastering as the reference standard for what the undigitized analog master tapes actually sounded like. It was indeed outstanding.

**1984 London First CD Issue:** This first digital transfer (48kHz/16-bit) from the analog tapes was made only two years after the commercial introduction of the compact disc as a playback medium. I had two copies of this version, with the same catalog number [414101]. One, manufactured in West Germany, sounded somewhat muffled. (Played on another reference-quality speaker system having more prominent highs, the treble was better proportioned.) The other copy, labeled "Made in USA," was much brighter sounding. Upon prolonged listening, however, the orchestra seemed thin, shrill, and fatiguing, particularly in loud climaxes. Voices sounded flattened and one-dimensional. Solti's Ring, recorded between 1958 and 1965, just missed out on the "Dolby A" noise reduction system for reducing background tape hiss, which Decca introduced in 1966 with Solti's London recording of Mahler's Second Symphony. On the 1984 edition of the *Rheingold* CDs, tape hiss was noticeable but not overly obtrusive.

**1997 Decca Second CD Issue:** For the 1997 edition [455556], Decca mastering engineer James Lock, who had assisted the late John Culshaw on the original Ring sessions (Culshaw left Decca in 1967 and died in 1980), was assigned to de-hiss the Ring, using the "CEDAR" [Computer Enhanced Digital Audio Restoration System] DH-2 De-Hisser. Contrary to published speculation, Lock did not return to the 1984, 48/16 digital master tapes to de-noise them but made new 48/24 transfers from the original analog tapes.

Unlike the acoustically benign Dolby process for minimizing tape hiss during the recording process, Cedar (as well as the egregiously overtone-suppressing NoNoise system) reduces hiss during playback of a recording that has already been made. It can have banefully audible side effects when overapplied to music. Early versions of Cedar and other after-the-fact

noise reduction systems were notorious for often removing overtones along with the tape hiss, sucking the ambience out of recordings while subtracting low-level musical sounds to the vanishing point. This made faint sounds crumble or disappear altogether and changed the timbre of instruments and voices. The best way to describe its effect is that it sounded sterile. Cedar itself advises to “use minimal processing,” warning that overuse of Cedar can “affect the desired program content,” “leave undesirable artifacts,” and will “take the tops off some (notably male) voices.” Warning of undesirable side effects, the Cedar Owner’s Manual almost comically admonishes: “The optimum value of ‘Level’ is around the crossover point between the twitters and the glugging.”

In fulfilling his corporate mandate to remove as much tape hiss as possible, Lock valiantly tried to strike a balance between reducing hiss and excessively dulling the sound by attenuating the overtones. Lock continually varied the amount of noise reduction in an effort to be contextually sensitive, endeavoring to mitigate Cedar’s well-known deleterious effects.

Thankfully, I found the 1997 transfer to sound noticeably better than its 1984 predecessor, which was made with an earlier, relatively primitive analog-to-digital converter. The 1997 edition seemed richer, warmer, and unfatiguing, coming close to the LPs, except for the highest overtones. Oddly enough, two later Decca reissues of this same 1997 version were quite different, falling short in varied ways:

**2008 Decca “Originals” CD:** This mid-priced reissue [4780382] was incorrectly designated on the front cover as “96kHz – 24-bit Remastering,” whether through duplicity or sheer carelessness (other non-96/24 analog recordings in this series simply said “Digitally Remastered Recording”). The mislabeling was highly misleading, as Decca later admitted that no 96/24 remastering was ever made of any of the Solti Ring operas. It was merely the 1997, 48/24 edition, but in degraded sonics. Although other CDs in the Decca “Originals” series have been excellent, this was, perversely, the worst of all Solti *Rheingolds*, sounding inexplicably dull and lifeless.

**2009 Decca “Heritage Masters” CD:** This was a budget-priced reissue [4781403] without libretto or program notes, for which no claim of 96/24 remastering was made. Issued just nine months after the Decca “Originals” version, the difference was night-and-day. Cheaper was better! It was as if someone had removed a scrim. However, the sound still didn’t match the quality of the full-price 1997 issue.

**2012 Decca Deluxe Limited Edition Third CD Issue:** In a program note accompanying the latest limited edition, Decca disclosed that they did not go back to the original analog tapes to make a new transfer. The official excuse was that the master tapes were too deteriorated. Instead of making a high-resolution 96/24 transfer, they took a shortcut by utilizing the 1997 Cedarized 48/24 digital audio tape transfer as the source, which was then enhanced by unspecified means. Engineer Philip Siney – who had been present when the late James Lock made the 1997 transfers (Lock left Decca in 1997 and died in 2009) – tweaked and massaged the 15-year-old digitization in 2012, although Decca did not provide any technical details. Nonetheless, this was significantly better than any previous CD version when played on high-end equipment, rivaling the LPs. According to the company, a poor edit was corrected, a missing beat at Donner’s entry in Scene 2 of *Das Rheingold* was replaced, and incidental studio noises were minimized.

In the listening tests, the 2012 edition benefited from increased clarity and definition, as well as a quieter background. It was apparent to trained ears that the frequency response had been re-equalized, the bass in particular being boosted. The E-flat pedal point at *Rheingold's* opening had the power of an organ pipe, and was much louder than any previous edition. The dynamic range of the opera's climaxes had been expanded, and the maximum volume level increased. There was no audible evidence of compression or limiting that would undercut the impact of the loudest passages. However, the high frequencies, while present, were not as extended as they could have been, had the producers gone back to the original analog tapes to make a new 96/24 transfer instead of merely "sweetening" the 1997 digital transfer, made to a now outmoded technical standard.

Fortunately, the disastrously poor "Ride of the Valkyries" that I heard on Decca's Internet video was an anomaly; the deficiencies were mercifully absent from the actual CDs.

**2012 Decca Deluxe Limited Edition Blu-ray Audio Issue:** Requiring a Blu-ray DVD player for playback, this disc enabled you to hear the Ring in high-resolution 48/24 audio rather than the "down-rezzed" 44.1/16 version on the CDs. It was like listening directly to the actual 48/24 digital master tape, even if some of the shimmer of the overtones had been attenuated from the master tape along with the hiss. Although there is no video content, a TV set is required to navigate the Blu-ray audio disc's menus and select the tracks.

While the Blu-ray's sound quality was not dramatically different from the 2012 CDs, the accuracy of the soundstage was amazing. In "Ride of the Valkyries," the offstage Valkyrie voices sounded like they were integrated into the Sofiensaal's acoustics and not off in some kind of echoey, ersatz electronic limbo. Throughout the operas, one could locate exactly where the singers were standing, and their voices had more body than could be heard on the CDs. In Brünnhilde's Immolation Scene, sung with transcendent mastery by Birgit Nilsson, her voice was reproduced with almost holographic reality, conveying not just amplitude but depth as well. The same precision of imaging applied to the instruments and sections of the orchestra. There was no sense of strain or congestion even in the loudest brass or percussion climaxes; the sound remained transparent. It was obvious that no small amount of art and craft went into the creation of this latest incarnation, allowing listeners to experience Solti's Ring more faithfully than previously possible.

Compared to the Blu-ray, the stereo LPs suffered from the limitations of the medium, particularly dynamic compression in the inner grooves, where many of the loudest climaxes were engraved. Still, the LPs, when played on a premium phonograph cartridge, gave tantalizing hints that there were even more sonic riches to be extracted from the original analog tapes, especially in the highest frequencies.

### **Technical Considerations**

In the preceding discussion of the Ring's CD reissues, there are references to "44.1/16," "48/16," "48/24," and "96/24." Here is a brief primer – at the risk of oversimplification – as to what these terms mean and their significance. Since their introduction in 1982, all conventional compact discs have been encoded at the "red-book" standard of 44.1/16, which is shorthand for a sampling rate of 44.1kHz at a resolution of 16 bits. That is, the audio waveform is digitally sampled at a rate of 44,100 times per second. This allows frequencies ranging up to half that number (about 20,000Hz) to be reproduced. The second number, "16," refers to bit depth, which determines the dynamic range (or signal-to-noise ratio) of what is recorded.

However, it is possible to obtain superior sound by mastering at a higher sampling rate and bit depth, before down-converting it to 44.1/16 for the CD. When the Solti Ring CDs were first digitized in 1984, the professional mastering standard was 48/16. That was superseded by 48/20 in 1993 and then supplanted in turn by 48/24 in 1996, which was the professional standard at the time the 1997 Ring CDs were prepared. A year later, in 1998, 96/24 mastering was introduced, which produced still further sonic improvement in transfers of analog originals. CDs prepared from 96/24 masters first appeared in 1999, in the Decca “Legends” and RCA “High Performance” series. Sampling at 96kHz made it possible to double the highest frequency that could be recorded – compared with 48kHz – giving more faithful reproduction of overtones and reducing distortion and artifacts caused by steep filters, an improvement that could be heard even on conventional compact discs. Unfortunately, the 1997 Ring remastering occurred one year too early to take advantage of the new technology. (A few specialist audiophile labels have recently begun mastering stereo Blu-ray audio discs at an even higher resolution of 192/24.)

Decca has been coy in refusing to reveal the sampling rate of the Blu-ray disc that comes with the 2012 deluxe edition, stating in its ads and publicity material that the Blu-ray is “the complete Ring on one disc presented as lossless 24-bit files.” I have located a statement regarding technical specifications of the Solti Ring Blu-ray disc by Stefan Bock, the founder and managing director of msm-studios in Munich, Germany, the company to whom Decca contracted-out the authoring of the Blu-ray edition. The Ring Blu-ray is 48/24. Mr. Bock, who supervised the transfer of the Solti Ring to Blu-ray, was asked why the Blu-ray was encoded at 48/24 instead of the commonly used, superior 96/24 resolution. He responded as follows: “We have discussed with Decca about delivering 24/96 files, as we would have loved to have this title in even higher resolution on Blu-ray. I was told that the restoration work on the analog tapes has been done in 48k. So I think, the Blu-ray disc carries the best sound available.”

### **Conclusions**

After comparing the nine versions of Das Rheingold described above, it is appropriate to draw some conclusions. All considered, purchasers will find the 2012 edition to be the best yet, but – had Decca taken the time, expense, and effort to return to the original analog master tapes to make a new, state-of-the-art digital transfer – it could have been even better, especially at the high frequencies.

Although engineer Philip Siney conscientiously enhanced the older, 1997 Cedarized digital master tapes for the 2012 deluxe reissue, you can’t put back what has already been removed. If the high frequency response has been attenuated, you can boost the high frequencies that remain, in order to counteract the dullness, but you can’t restore missing overtones that have been sheared off by the Cedar process. A frequency analysis of the Blu-ray disc shows that the high frequency spectrum of the contents was apparently rolled-off sharply at 20kHz and cut off by 22kHz. The analog original tapes would have had a wider frequency response; a 96kHz Blu-ray made from them would have sounded noticeably better than a 48kHz Blu-ray, which is only an incremental improvement over the 44.1kHz sampling rate of the CDs.

It strains credulity to accept the company’s explanation regarding the original analog stereo master tapes that their “degradation had been significant, and it was deemed impossible to make

superior audio transfers from them.” After all, we are not talking about just one tape, but four separate operas recorded in 1958, 1962, 1964, and 1965: the crown jewels of Decca’s operatic archive. Even if one concedes that all four of the mixed-down and edited first-generation stereo master tapes could have been similarly and simultaneously rendered unusable by deterioration of the oxide coating or splices, it should have been possible to make new transfers by returning to the original multitrack analog master tapes (as RCA did for their “Living Stereo” SACD reissues, with digital edits – conforming to the selected takes in the original session logs – eliminating the need to physically splice the master tapes). Alternatively, analog reserve tapes, safety copies, or submasters could have been used as a source for a fresh transfer.

Decca has released many 96/24 remasterings of analog tapes of equivalent vintage that are even better sounding than Solti’s Ring (for example, in the 50-CD box set, “The Decca Sound,” issued in 2011). Somehow, all these tapes miraculously escaped deterioration. While the 2012 Ring edition, with its origins in a 1997 Cedarized, outdated digital transfer, should not be regarded as making “a silk purse out of a sow’s ear,” it is regrettably a lost opportunity for Decca, who could have created a definitive, up-to-date transfer of this landmark recording.

Reportedly, it took 40 years for Solti’s Ring to earn back its recording and production costs. Decca’s current “bean counters” probably did not want to commit the studio time or budgetary resources to undertake a new transfer, mixdown, and digital editing of the 14-1/2 hours of four-channel original analog master tapes (comprising two channels for the orchestra and two channels for the voices) as the basis for a new high-resolution 96/24 transfer. Since that was evidently deemed too laborious a task of reconstruction, it is incomprehensible that Decca failed to make a new transfer from readily available analog secondary sources instead, such as reserve tapes and pre-existing edited backup copies.

Presently, there are newer and more advanced methods of noise reduction than the early version of Cedar, now obsolete, that was used in the 1997 Ring edition. Although Decca states that the most modern noise reduction software and mastering tools available have been utilized in the 2012 upgrading of the 1997 transfer, it would have been preferable if they had made a fresh start, rather than superimposing their latest efforts on a tape previously de-hissed by a superannuated version of Cedar.

Nor can a 48/24 transfer be considered state-of-the-art or cause for celebration. In a note included in the 2012 Ring reissue, it was disingenuous for Decca to congratulate itself for being “particularly fortunate” in having “the foresight to make [its 1997] transfers at a higher bit-depth [24] than the prevailing lesser issuing standard of red-book CD [16], so that the full dynamic range of the masters is preserved.” This verges on sophistry. By the time Decca made its 1997 transfers, 48/24 was a well-established industry standard. Except for some stragglers still mastering in 20-bit, most professional mastering by major record labels was done at 48/24, the older 48/16 equipment having been mothballed long ago. Rather than being foresighted in making a transfer in 1997 at 48/24 which was by then common practice, it can be argued that Decca was shortsighted in not making a new archival transfer after 1999 at 96/24, if only as a precaution against possible future decay of the analog master tapes.

The fact that Decca deliberately or slovenly misrepresented its 2008 “Originals” reissue of the 1997 *Das Rheingold* as a 96/24 remastering, a mistake that it still has not corrected, does not inspire confidence in the company’s probity.

As a further reflection on Decca’s veracity, the material reprinted from the December 2009 issue of *Gramophone* provided with the Ring’s 2012 limited edition quotes violinist Walter Weller, leader of the Weller Quartet which served as the nucleus for the 13-instrument *Siegfried Idyll* contained in that set, as stating that – not only did Solti not conduct the recording of the *Idyll* – “Solti wasn’t even in the country at the time!” Decca has always billed this 1965 recording as having been conducted by Solti, but Walter Weller maintains it was performed conductorless, with Weller directing principal members of the Vienna Philharmonic from the concertmaster’s chair. An embarrassed Decca saw fit to contradict this assertion in a footnote to the Ring album without, however, offering any documentary evidence.

It should be noted that Decca rereleased *Siegfried Idyll* in 1999 as an actual 96/24 remastering in the Decca “Legends” series [460311]. If only Decca had done so for the Ring as well.

Solti Ring completists should be aware that in 2009 Decca issued a splendid-sounding 96/24 remastering of Culshaw’s “dress rehearsal for the Ring” 1957 Vienna Philharmonic stereo recording of *Die Walküre* – Acts 1 and 3 on the Australian “Eloquence” label [4801892]. Solti conducts Act 3 with Kirsten Flagstad as Brünnhilde; Hans Knappertsbusch leads Act 1 with Flagstad as Sieglinde. Also taped in 1957, Solti helms the Vienna Philharmonic in *Die Walküre*’s Act 2 *Todesverkündigung* Scene with Flagstad as Brünnhilde on another “Eloquence” release: *The Flagstad Recitals – Volume 3* [4801796].

### **Summary**

In 2012, Decca issued a complete box set of Solti’s ten Wagner Operas on 36 CDs [4783707] but, rather than including the 2012 Ring remastering as part of that set, they recycled the 1997 Ring version instead. Currently, the premium-priced limited edition is the only way to obtain the 2012 Ring. At a later date, when the limited edition is sold out, Decca expects to release the 2012 remastering of the Ring by itself in a standard CD edition, without the extras or the Blu-ray disc.

It is unlikely that the Blu-ray will be sold separately, as it was intended as an inducement to pony-up for the premium-priced, deluxe limited edition of the Ring. Decca has never sold any other audio-only title in the Blu-ray format – due to high authoring costs and low sales potential – despite the fact that they have an abundance of 96/24 masterings and native digital recordings to choose from. The major labels are apparently convinced that the future lies in merchandising online downloads rather than physical discs: the Decca Solti Ring is currently being marketed as a 48/24 high-resolution download from HDtracks.

Since it is highly improbable that Decca will ever remaster Solti’s ring in 96/24, I strongly recommend purchase of the deluxe limited edition while it is still available, primarily for the Blu-ray transfer, which is as close to being present in the mastering studio’s control room as we will ever be able to come. Discounts are widely offered.



Decca's 96/24 transfers to CD of other equally old analog tapes, including Solti's Strauss operas, have been sonically outstanding. A Ring Blu-ray, or even conventional CDs, made from a new 96/24 transfer could have surpassed this misguided deluxe reissue which – good as it is – must be considered a major missed opportunity.

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*Associated Equipment:* Rega Planar 3 turntable; Rega RB300 tonearm; Grado Prestige Gold 1 and Grado Reference Sonata 1 phono cartridges; Oppo BDP-95 Blu-ray universal disc player; Theta DS Pro Prime DAC; Conrad-Johnson PV11 vacuum tube preamp (upgraded); NuForce Reference 9 monoblock power amplifiers; Dahlquist DQ-20 speakers (upgraded); Cardas interconnects and speaker cables; Sony MDR-V6/MDR-7506 stereo headphones.

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This review is available on the website of the Wagner Society of New York under “Special Topics”:  
[www.wagnersocietyny.org](http://www.wagnersocietyny.org).

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### **About the Contributor**

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Photo: GoldDerby