

Joe Farrell's *Moon Germs*:

A Jazz Master's Legacy

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The annals of jazz are full of forgotten players; musicians who, in spite of their artistry, were never welcomed into the jazz pantheon. Saxophonist Joe Farrell is an example of one of these under-appreciated musicians. Sometimes written off as unoriginal, a 'Coltrane clone', an overly commercial player, or simply a "traditional-type tenor player" (Berliner 165), Farrell's legacy has failed to grow with time despite his amazing musicianship and body of recordings. While Farrell was undoubtedly inspired by seminal jazz saxophonist John Coltrane's unique musicianship and internalized much of Coltrane's contribution to the idiom, Farrell grew into an original voice with virtuosic skill on several woodwind instruments and an extremely advanced harmonic concept. Prior to his death in 1986, Farrell was growing as an innovative musical thinker and performer. This musicianship is well displayed on his 1972 recording, *Moon Germs* (CTI 6023). His third record in a series of six for Creed Taylor's CTI label, *Moon Germs* is laced with an accessible rock music element as well as more traditional post bop and modal grooves. The album shows Farrell moving away from standard jazz quartet repertoire favoring compositions heavily influenced by the then burgeoning *fusion* sound. This mixture of jazz and rock music was at the time synonymous with pianist Chick Corea's band *Return to Forever*, of which Farrell himself and Stanley Clarke (who filled the bass chair on *Moon Germs*) were members. Reinforcing the connection with Corea and the fusion style is the fact that two of the four tracks on the record, *Great Gorge* and *Times Lie*, are Corea compositions. Still, in comparison with Farrell's other efforts on CTI, which include the heavily funk and rock oriented records *Canned Funk* and *Penny Arcade*, *Moon Germs* is predominantly a jazz record.

The title track, *Moon Germs*, is a minor-keyed twelve bar blues in E_b concert key. It has been called "a swinging post-bop workout that features Farrell's Coltranish soprano work. Like the best of Coltrane's modal workouts it has plenty of rhythmic drive and inventiveness to keep the listener interested" (Bowden), and "obviously influenced by...John Coltrane (Keresman). These statements are *de rigueur* for any up-tempo, minor keyed, and modally constructed composition from the early 1970's featuring the soprano saxophone, electric piano, electric bass, and drums. But *Moon Germs* is much more than a re-hashing of old grooves and improvisational styles, it is a sterling example of Farrell's originality. The recording features Herbie Hancock on electric piano, Stanley Clarke on electric bass, and Jack DeJohnette on drums, with Joe Farrell on soprano saxophone with composer's credit. Farrell's composition *Moon Germs* and accompanying improvisation stand as examples declaring that Farrell deserves to be remembered as the unique and original musician he was.

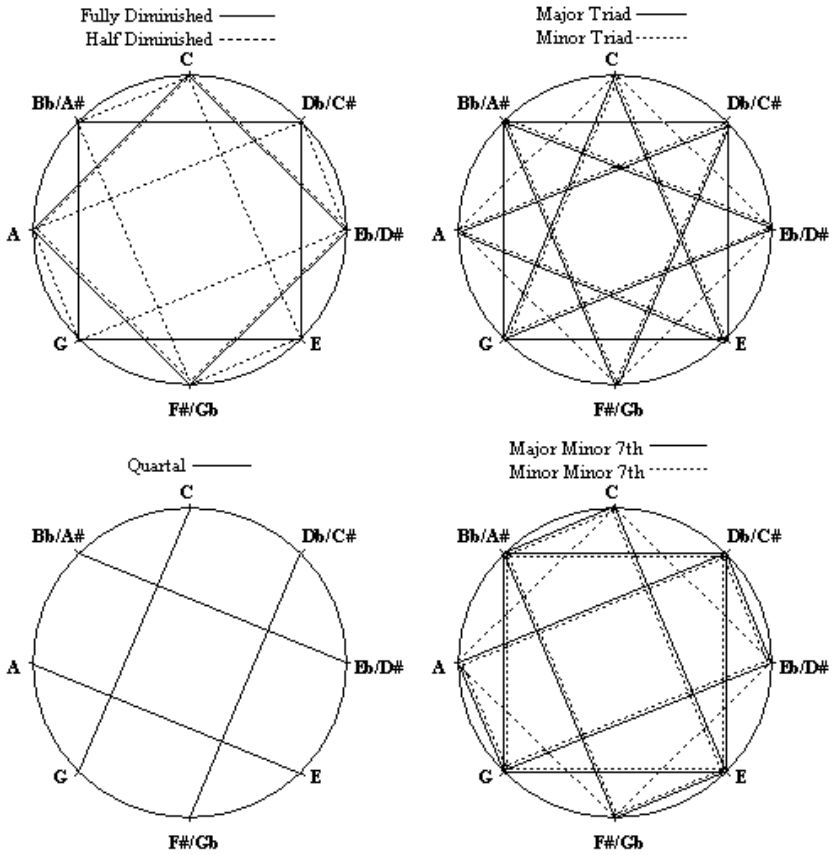
Unique How?

Over *Moon Germs*' up-tempo and minor-keyed blues form, Farrell would have been entirely within 'correct' idiomatic bounds had he restricted himself to a modal improvisation consisting predominantly of Dorian scale oriented material. At the time of *Moon Germs*' recording, jazz musicians such as Wayne Shorter were incorporating new modal structures (in addition to the common use of the Dorian mode since Miles Davis' album *Kind of Blue* in 1959) into their improvisations and compositions for a few years already. The use of modes of the melodic-minor scale was growing in popularity (such as the Super Locrian used over dominant seventh #9 "altered" chords), while the presence

of traditional blues harmony maintained its relevance to the jazz sound as was well displayed in the contemporary jazz recordings of Art Blakey and the Jazz Messengers. A close assessment of Farrell's improvisation shows that he incorporates these harmonic materials in addition to two that are unique to his improvisational vocabulary. The more conventional harmonic materials present in Farrell's improvisation act as familiar sound terms tethering the composition and improvisation to the aforementioned minor blues style while allowing Farrell to use harmonic deviations without completely alienating the listener. The deviations to which I refer are Farrell's use of the diminished scale and diminished scale-derived patterns, and quartal harmony. I argue that Farrell's approach is not dissimilar to Beethoven's offering certain obviously beautiful and familiar sounding passages as repose during the seventh movement of his stirring and boundary pushing String Quartet Opus #131 in C#m. In an effort to further explain the novelty of Farrell's improvisational vocabulary, I will discuss general diminished harmony and its conventional use in the jazz idiom as well as quartal harmony before exploring Farrell's novel applications of both. Over what were at the time becoming increasingly common harmonic vistas, Joe Farrell's original application of these materials allowed him to assert himself as a unique voice.

Diminished Harmony in the Jazz Idiom

The diminished scale is an octatonic scale, that is, one comprised of eight notes, and is generally referred to as a synthetic or symmetrical scale. A diminished scale is built by alternating whole steps and half steps respectively.



Generally, the scale is referred to simply as diminished when started with a whole step and as inverted diminished when started with the half step. As it turns out, the tones contained in the diminished scale can be used to construct a startling number of chords and chord types. A single diminished scale contains four dominant-seventh chords, four minor minor-seventh chords, two fully-diminished-seventh chords (eight if one counts fully-diminished-seventh chords from each root),

four half-diminished seventh chords, four fifths of four major pentatonic scales, four quartal relationships, as well as the tones to generate four major triads and four minor triads. Diminished harmony has been used by baroque, classical, impressionistic, romantic, and contemporary composers to create music full of ambiguity, or on the contrary, with direct resolution. It can be helpful in conceptualizing these possibilities to plot the eight diminished scale tones around a circle and then connect them in as many relationships as possible (see figure).

The diminished scale is sometimes used in jazz and classical repertoire music to augment standard dominant 7th chords with the addition of a flatted 9th tone ($\flat 9$), thereby creating an even greater pull to Tonic in a perfect cadence. The addition of the $\flat 9$ on a dominant 7th chord, for instance on a G⁷ with original tones ascending spelled G B D F, now looks like G A \flat B D F. Notice that A \flat B D F is a fully diminished chord and hence perfect ground over which to superimpose an inverted diminished scale. Standard bebop language incorporates this harmony extensively as nearly every dominant 7th chord receives the addition of a $\flat 9$ and is thusly treated with diminished harmony. This kind of use of diminished harmony is functional and can be clearly heard in the melodies and improvisations of such seminal jazz musicians as Charlie Parker, Dizzy Gillespie, Bud Powell, Sonny Stitt, Sonny Rollins, John Coltrane, etc.

As Joe Farrell was heavily influenced by John Coltrane, a closer examination of Coltrane's body of work regarding his use of diminished harmony is necessary. Coltrane's bebop playing included diminished harmony which can be heard quite clearly in the trio setting of his 1957 Prestige recording *Lush Life*. The trio's reading of the Cole Porter standard *I Love You* from *Lush Life* features Coltrane using the diminished scale quite a lot but in the already described manner relating to dominant seventh chords. Compositionally, *I Love You* uses $ii^{7(\flat 5)} - V^{7(\flat 9)} - I$ harmonic progressions throughout which act as the springboard for inverted diminished permutations. Additionally, the harmonically ambiguous trio setting of bass, drums, and saxophone allows Coltrane to use the aforementioned inverted diminished vocabulary to create moody and even tribal sounding melodies over a bass/drum groove introduction and coda in less obviously traditional ways, as can be seen in the first eight measures of the introduction (Example 1).

Example 1

Cm7

Though the harmonic movement of the introduction to *I Love You* is static and built around the tonal center of C, Coltrane's use of the C (Dominant) inverted diminished scale is entirely functional as it builds tension that is released in the opening bars of the melody, which are in the key of F (Tonic). Coltrane's additional use of diminished material throughout his improvisation is consistently functional and traditional. In his

book *Inside Outside*, a treatise on substitution chords and harmonic ideas in the jazz language, Reese Markevich points out that this traditional use of the diminished scale superimposed over a dominant chord or $ii^7 V^7 I$ harmonic progression is substitutional. Markevich points out that when jazz musicians play the diminished scale in a descending manner over a $ii^7 V^7 I$ chord progression, as is common bebop practice, they are actually creating a tritone substitution cycle in the place of the original chords. (28) For example, in the key of “C”, a $ii^7 V^7 I$ progression would be $Dm^7 G^7 C$. By playing the Diminished scale descending over this progression, one suggests the substitute harmony: $Dm^7-G^7-G\#m^7-C\#^7-CM^7$ as can be seen in Example 2. This use of Diminished harmony is a very common part of jazz (especially bebop) vocabulary and is observable in the improvisations of most all jazz greats.

Example 2

The image shows a musical staff in treble clef with a common time signature (C). The notes of the descending diminished scale are: D4, E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. Above the staff, the original chord progression is indicated as (Dm7 G7 G#m7 C#7 CM7) and the substituted chord progression is indicated as Dm7 G7 CM7.

Quartal Harmony in the Jazz Idiom

The other compositional and improvisational element employed by Farrell is quartal harmony. *Moon Germs*' snaking diminished flavored melody is underpinned by stacks of perfect fourths in the electric piano rather than explicit voicings of tertian chord tones. The use of quartal harmony offers the composition a harmonically ambiguous and unsettled quality. I believe that the perfect fourth interval's ambiguousness is due to it's not being an interval generated naturally in the overtone series, thereby not implying a strong tonal center. "The note we recognize as the fourth degree of a major scale does not appear in the overtone series," asserts W.A. Mathieu who goes on to say that "the "perfect fourth," never appears, not even if you ascend to the millionth overtone" (42). Rather, the perfect fourth interval is an inorganic yet accepted tone generated by the inversion of the perfect fifth above a tonic, the perfect fifth being the third partial generated in the overtone series. This perfect fourth interval and scale degree were appear prevalently in the jazz language of the 1960's, particularly McCoy Tyner (famously accompanist to John Coltrane), who "developed a particular type of voicing in fourths that was to characterize the sound of the (Coltrane) quartet...Chick Corea and many others emulated Tyner's approach, and he [Tyner] has perhaps been underestimated by the critics as an influence on modern piano style along with [Bill] Evans" (Porter, 182). Quartal harmony can also be explicitly heard in many compositions beginning in the mid 1960's, most notably in Wayne Shorter's famous composition *Witch Hunt* (1965) and Eddie Harris' *Freedom Jazz Dance* (1965). This type of harmony, which we refer to as quartal (constructed of fourths) harmony, is prevalent in *Moon Germs* and acts as a subterfuge creating harmonic ambiguity. In his landmark book, *Thinking in Jazz*, Paul Berliner agrees stating, "Practices like omitting chord roots, building chords around fourths, and increasing color tones result in enlarging the harmonic ambiguity of voicings" (334). The use of quartal harmony in jazz compositions denies the listener commonly expected cues regarding a composition's tonal center and can create unease

and emotional tension in the listener. It has been noted by Leonard Meyer (1956) that “Ambiguity is important because it gives rise to particularly strong tensions and powerful expectations” (51). Patrik Juslin (2001) agrees that, “a performer may enhance listener’s emotional responses to the music by emphasizing notes that are of particular ‘significance’ in the composition, thereby enhancing violations of musical expectations that are already latent in the [musical] structure” (330). Farrell adroitly recognized the ambiguous nature of quartal harmony and incorporated it into his compositions and improvisations to a very effective and facile degree. Berliner makes direct reference to Farrell in an anecdote from trumpeter Benny Bailey discussing Farrell’s discipline in incorporating quartal harmony into his improvisations citing “...the case of Joe Farrell...who once reported that it “took him a year of studying those fourth patterns before he could work them into his solos”” (165).

Moon Germs: Compositional and Improvisational Characteristics

Farrell’s composition *Moon Germs*, from the eponymous album (*Moon Germs*, 1972 CTI) is a minor keyed twelve-bar-blues form composition in the post bop style. The composition is similar in construction to John Coltrane’s *Equinox* (1964) as well as countless similarly constructed minor-blues based jazz compositions. The form’s root movement is usually as follows: the first four bars on the tonic, measures five and six on the sub-dominant, seventh and eighth measures moving back to the tonic. Measure nine is on the flatted thirteenth (a B natural in our case referring to E_b) falling to the dominant in measure ten with eleven and twelve back on the home tonic. A few compositions bearing similar chord progressions include John Coltrane’s *Mr. P.C.* (1959) and Benny Golson’s *Hasaan’s Dream* (1956). Upon close examination of *Moon Germs*’ melody, it should be no surprise that Farrell’s improvisation should contain diminished material. As can be seen in the accompanying transcription and analysis of the melody and improvisation, the melody includes what I will refer to as an *Inverted Diminished Saw* (IDS) pattern. An ascending IDS begins by rising a major third, falling a minor second, ascending again a major third, falling a minor second, etc. An IDS can also descend by descending a major third, rising a minor second, descending a major third, falling a minor second, etc. If this pattern is repeated four times, each note in the eight note diminished scale is used. This pattern is not new to Farrell’s composition or improvisation and can be found in the improvisations of many jazz performers. What makes Farrell’s use of the IDS novel is its lack of explicit functionality as in bebop’s most common context for diminished scales: super imposed over a dominant seventh chord with a flatted ninth.

From the second note in the melody to the seventh (G_b, B_b, A D_b, C E), *Moon Germs*’ melody is an explicit IDS. Another manifestation of Farrell’s diminished outlook for the composition is a specific chord, most easily understood as a C⁷ over an E_b pedal, which appears in beat four of measure two as well as most of measure eight of the composition. A C⁷ chord consists of C, E, G, and B_b, all of which are found in an E_b inverted diminished scale. This chord stands as an important compositional element in *Moon Germs* as it augments the four explicit tonal centers in the standard E_b minor blues format featuring E_b, A_b, B, and B_b tonal centers and begins asserting the unusual presence of the inverted diminished scale in this minor-blues form. In addition to the inverted diminished material, Farrell includes much of the aforementioned quartal harmony in his

improvisation. This is also alluded to in the composition's melody as the first and second notes of the melody are a perfect fourth apart and the melody comes to rest for all of measure four on the fourth scale degree (A_b) of the chord ($E_b m7$). The use of IDS and quartal harmony can be explicitly seen in the first four measures of *Moon Germs* as shown in Example 3.

Example 3 $E_b m$

Inverted Diminished Saw

Quartal

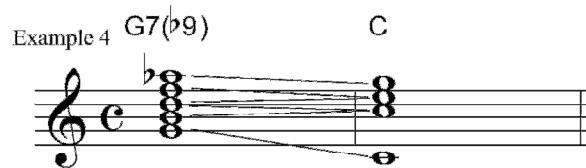
(Implied $C7/E_b$)

This quartal implication occurs again in the sixth measure during which the melody note (D_b), held for three beats against an $A_b 7$ chord, is the fourth scale degree. Farrell's repeated and extended use of the fourth scale degree during the composition's melody creates an unsettling harmonic ambiguity as it is not a tertian chord tone and does not relate directly to the tonic. This prevalence of diminished and quartal harmony is carried into Farrell's improvisation.

Farrell's Improvisation

Upon listening to Farrell's recorded improvisation on *Moon Germs*, critics' common referral to Coltrane's influence on Farrell is understandable. Farrell plays the soprano saxophone, an instrument strongly associated with Coltrane since his 1962 record *My Favorite Things*, which featured soprano saxophone on the now famous song of the same name. Prior to Coltrane's revival of the soprano saxophone, it was primarily associated with early jazz virtuoso clarinetist and saxophonist Sydney Bichet. Regarding Coltrane's great influence on his contemporary musicians, Barbara Gardner wrote in the 1961 *DownBeat* reader's poll that, "His [Coltrane's] influence on other musicians continued to grow; many young tenorists continued slavishly to imitate him" (Porter, 189). Though Farrell's improvisation is fast and kinetic employing elements of modal, quartal, extended and unusual harmonies echoing Coltrane's recordings from his final period, his approach to improvisation differs from Coltrane's. David Liebman (1996) notes in his essay, *John Coltrane's Meditations Suite: a Study in Symmetry*, that during Coltrane's last period beginning with the recording of *Meditations* in 1965 till his death in 1967, Coltrane was no longer as concerned with referencing a composition's melody or structure during his improvisations. Rather, he began to understand melody more as a "vehicle for the improvisation to follow... This is one of the parameters of Coltrane's last period, where melodies and ensuing improvisations are not necessarily directly related" (174). Farrell's continued reference to *Moon Germs'* melody and structure during his improvisation displays his independent concept of jazz improvisation as well as his extremely well developed harmonic concept. He shows that he is his own man, not merely a Coltrane clone.

In the interest of emphasizing Farrell’s skill as an improviser, I will offer several transcribed examples from his improvisation. While musical scholars have sometimes feared that, “representations of music (such as musical transcriptions) are inherently formalist, reifying, and decontextualizing” (Monson 209), in this case it is instructive in exemplifying Farrell’s originality. Farrell begins his improvisation echoing the compositions melody with an explicit inverted diminished saw and continues to use the pattern a total of ten times¹ during his fifteen choruses. Though the inverted diminished saw pattern only occurs explicitly ten times, easily recognizable inverted diminished material occurs yet another twenty times². Additional diminished material occurs five more times³ for a total of thirty-five instances of inverted diminished and diminished material during Farrell’s three minute improvisation. The sheer density of instances of diminished vocabulary clearly indicates Farrell’s commitment to referencing and developing material from his composition’s melody and over-arching structure while magnifying his improvisational and harmonic concept. Though the melodic use of diminished material is relatively uncommon and the average listener’s ear is not well attuned to its sound, most listeners would find that they can still sense *Moon Germs*’ harmonic progression during the melody as well as Farrell’s improvisation. This is due to the unusual and semi-functional way in which Farrell uses the diminished scale and its constituent notes which I will refer to as his *diminished vocabulary*. It has been already noted that a diminished chord and its accompanying scale often appear in bebop improvisations superimposed upon dominant seventh chords acting as part of perfect (V – I) cadence. A common example from bebop: if a G⁷ (V⁷) chord was resolving to C (I), a flatted ninth (A_b) would be added to the G⁷ chord (originally spelled as G B D F), thereby creating fertile ground for a superimposed A_b B D F fully diminished chord and its accompanying inverted diminished scale. Prior to the addition of a flatted ninth, the dominant chord G⁷ contains a single tension-creating tritone between notes B and F. The F ‘wants’ to resolve in a descending manner to the third (E) of the tonic chord as the B ‘wants’ to ascend and resolve by half step to the root (C) of the tonic chord. The addition of the flattened ninth (A_b) to the already tense dominant chord creates another tritone between A_b and D with the A_b ‘wanting’ to resolve by descending a half step to the fifth (G) of the tonic chord and the D ‘wanting’ to resolve by falling a whole step to the root (C) of the tonic chord or ascending a whole step to the third (E) (Example 4).



An extrapolation of this standard bebop-type of tension and release (bearing resemblance to Coltrane’s introduction to *I Love You*) occurs in the beginning measures of Farrell’s improvisation as he uses the E_b inverted diminished scale over the first four

¹ mm 15, 18-20, 62, 63, 101, 150-151, 163, 172, 399, 402

² mm 22, 27, 31, 32, 40, 41, 46, 47, 55, 56, 67, 90-91, 99-100, 102-103, 124, 131, 134-137, 141, 161

³ mm 33, 39, 113-115, 132, 165-171

measures of the blues form which are voiced as an E_b quartal chord. By superimposing the E_b inverted diminished saw and scale material over the first four bars, voiced quartally by Hancock at the electric piano, Farrell creates a feeling of movement and tension which, in spite of the ambiguousness and static tendencies of the quartal harmonic underpinning, orients the listener's ear and drives his improvisation forward. This tension 'wants' to be released by falling in a pseudo-perfect cadence to the A_b tonal center of measures five and six of the twelve bar form. Farrell's originality is displayed as he creates more pseudo-perfect cadences in the form by introducing inverted diminished vocabulary over the B^7 of measure nine of the form falling to B_b^7 in measure ten. This B_b^7 then resolves via a pseudo-perfect cadence to the E_b minor of the last two measures of the form. Ordinarily, a B^7 chord does not have a dominant relationship to a B_b^7 chord, but Farrell's ingenious use of an inverted diminished scale over the B^7 creates an implicit perfect cadence falling to the B_b^7 . This is because the inverted diminished scales associated with $B^{7(9)}$ and $F^{7(9)}$ are comprised of the same eight notes thereby putting $B^{7(9)}$ in an implicit dominant relationship to B_b^7 's tonic (Example 5).

Example 5
(0.59)

The musical notation for Example 5 shows a melodic line in G-flat major. It begins with a trill on G-flat (labeled 'B') and continues with a series of notes and trills. Above the staff, there are labels: 'B', 'B Inverted Diminished (same as F Inverted Diminished)', and 'B-flat'. Below the staff, there are trill markings '3' and a larger trill marking '3' labeled 'B-flat Inverted Diminished'. The notation includes various accidentals and a final quarter rest.

Farrell even succeeds in incorporating his inverted diminished vocabulary with quartal structures at least twenty times throughout his improvisation in two creative ways. The first can be seen in measures 72-73 (Example 6) and includes an ascending pattern of quartal relationships wherein the last tone of each three note group spells an A_b diminished triad.

Example 6

The musical notation for Example 6 shows a quartal pattern in E-flat major. It consists of a series of three-note groups, each with a trill marking '3' above it. Below the staff, there are labels: 'Quartal Pattern, Last Tone of Each Group Spells an A-flat Diminished Triad' and 'Quartal Pattern -->'. The notation includes various accidentals and a final quarter rest.

Another creative incorporation of both diminished vocabulary and quartal structure occurs during measures 134-137 (Example 7). Twenty-four of the twenty-six notes occurring in these measures are constituents of diminished scales while Farrell successfully incorporates the perfect fourth interval six times in the span of only sixteen beats. This is clearly the work of an unusually competent improviser committed to his original and deep harmonic concept.

Example 7 * = a tone not representative of the surrounding chord, scale, or pattern

(2.30)

134

E Inverted Diminished

E♭ Diminished

E♭ Inverted Diminished

Conclusion

Joe Farrell was a unique voice in the jazz idiom. His composition *Moon Germs* and its concurrent improvisation stand as a legacy bearing witness to his deep harmonic concept, original harmonic devices, and virtuosic skill as a saxophonist. Farrell's novel use of diminished and quartal harmony display his remarkable ability to make new, fresh and effective music out of harmonic concepts that had already gained conventional usage in the still burgeoning jazz tradition. Though not yet included in the popular jazz pantheon, Farrell deserves to be remembered not just as another saxophonist in the line of post-Coltrane copycats, but as a masterful and original jazz musician that offered a significant contribution to the jazz idiom. Please see the attached full transcription and analysis of *Moon Germs* for a thorough illustration of all examples mentioned herein.

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