

AIRTIME

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Airtime

*Come, Sleep, and with thy sweet deceiving
Lock me in delight awhile;
Let some pleasing dreams beguile
All my fancies; that from thence
I may feel an influence
All my powers of care bereaving.
Though but a shadow, but a sliding,
Let me know some little joy!
We that suffer long annoy
Are contented with a thought
Through an idle fancy wrought:
O let my joys have some abiding!*

- John Fletcher, 1607¹

Introduction and Abstract

The hum of the machine at my bedside is audible, if barely, at 21dB. A 6' heated tube runs from the machine to the short, even more flexible tube of a mask consisting of a lightweight frame, elastic head strap, and cushioned nasal "pillow" that fits directly onto the nose. The machine contains a heated water reservoir and delivers a constant, sufficiently high pressure of humid air through the tubes and pillow into my nose to prevent my throat from collapsing while I sleep.

This device, a ResMed AirSense 10 AutoSet, delivers a Continuous Positive Airway Pressure (CPAP) for the treatment of sleep apnea, an unfortunate condition whereby my airway collapses due to relaxation of the throat muscles, resulting in the interruption of the flow of air to the lungs. My doctor tells me I have an almost perfect throat geometry for sleep apnea – lucky me! – and based on the results from a two-night sleep test, he prescribed an air pressure level commensurate with the severity of my condition. Without the CPAP device, when sleep apnea strikes, my body wakes me up 15

times every hour because of the lack of oxygen getting to my system, causing explosive snores and gasps and depriving me of a full night's deep sleep and REM sleep. I am completely unaware of this happening. While tethered to the CPAP device, the constant air pressure keeps my throat open, and I have only 0-2 airflow change events per hour, those episodes being mild and not disruptive to sleep.

In this paper, I will show that certain continuous assaults on individuality by the technologies of the medical-industrial complex's surveillance state can be overcome, or at least mitigated, by rejecting conformity and reclaiming the self through a methodology orthogonal to the attack. I start by discussing practical and physical aspects of CPAP usage, including treatment alternatives, living with the device, social impacts on others, and general impacts of sleep – or lack thereof – on fatigue and general health. I explore aspects of gamification, control, and privacy involving the transition of intimate data to a corporate or public environment. I compare the personal impacts of the CPAP device to personal impacts in existing non-CPAP

¹John Fletcher's (1579 - 1625) song "Sleep" is from the stage play, *The Woman Hater*, first published 1607.

device studies. I then expand the discussion of airflow aesthetically and metaphorically to include alternative airflows such as dreaming and singing, both comparing and integrating the airflows of the CPAP and singing in a performative aspect. I conclude with a creative intervention to retain some personal autonomy and identity for myself, the individual.

Alternatives and Resignation

There are alternatives to using the CPAP device. One can wear an expensive, custom mouthguard that pushes the jaw forward, creating extra space in the throat and reducing the likelihood of sleep apnea occurrence. The cost of this appliance is approximately the same as a CPAP device (ASA). An additional downside is that it introduces jaw muscle tension. Since I have had to wear a nightguard for years to ease jaw tension, I rejected this option outright.

A second option is airway surgery, with all the risks one normally associates with surgery. As a singer, I am wary of touching the area around a musical instrument I have spent much time developing over my life. I rejected this option.

The last option to consider is doing nothing, and coping with sleep deprivation on my own. Based on my experience for the last 8 years or so, this would mean being sleepy in the morning after 7-8 hours of sleep, and drinking coffee to get going. I would get sleepier in the afternoon and feel unsafe driving for longer distances, needing to actively will myself to stay awake. Sometimes I would need to put my head down on my desk for a while in my office; however, having drunk coffee, I would be wired and unable to sleep. As I considered my options, I noted that my evening graduate classes would soon be starting, requiring late-day concentration and driving back home in the dark. Doing nothing was not an option.

With all of these complicated decisions, one interesting aspect is that I am witness to none of sleep apnea's immediate effects. While I feel the after effects of sleep deprivation, I must rely

completely on my wife's observations during the night, binding her as witness and data collector to inform my seeking of treatment. This role as witness is not innocent, for she is periodically awakened by explosive snores as my body craves oxygen, reducing the fulfillment of her own REM and deep sleep requirements.

Others are impacted by my sleeping success. In fairness, my coworkers require that I contribute proportionally to job requirements, juggling tasks, making decisions. This is only consistently possible with quality rest. Similarly, my fellow MFA students should be able to depend upon me to participate fully in class discussions, for to not do so would cheat them out of the full cohort experience. Sleep is the vital ingredient that lubricates our minds' thoughts and dreams, and the loquacious wagging of our tongues.

Using the CPAP device has been a multi-dimensional learning experience, requiring several adjustments on my part. I received an introductory training session on how to use the machine, a mask fitting session, I arranged space at home for the device, and had a follow-up office visit to see how well everything was working. I also had to relearn some mechanics of "how to sleep" to achieve proper airtime.

Personal and Data Pipelines

Sleeping with a long tangle of tubes requires some adjustment. With the tubes pulled fully onto the bed, they can get tangled in bedsheets, and an unfortunate roll risks pulling the device off the side-table. When the tubes are minimally on the bed, their hanging weight pulls downwards on the mask which is both bothersome and more likely to unseat the mask from its most effective position. A compromise solution was leaving enough slack in the tube to reduce the danger of yanking the device to the floor, and threading part of the tube under a sheet to keep it from slipping entirely off the bed.

More so than the tubes, the mask has been fundamental in adjusting my sleeping position. I used to spend some of the night sleeping on

my side. However, my mask’s nasal pillow can get bumped out of place by the pillow and leak air if I am on my side, so I have had to re-train myself to sleep almost entirely on my back.

Additionally, the mask dictates bedtime verbal communication parameters with my wife. Rather than discussing the day’s events until we are ready to drift off, we must decide when we are ready to sleep. Only then do I put the mask on, which fills my throat and mouth with a constant flow of air. Speaking then means fighting the airflow, drowning in air, and makes clear speech challenging. In broadcast lingo: airtime is being off-the-air.

I had to set up an online account to monitor and log airflow data that the device records. My air-time data is sent over-the-air via a cellular unit embedded within the device to an online database. Reports based on that data are used to justify health insurance coverage of some of the cost of the device and accompanying supplies, for they will only pay if my measurements of compliance are “good enough” by their yardstick. I can access a data summary from a dashboard on the device manufacturer’s website², as well as device tips and tricks. An array of colorful web charts tracks my actual airtime usage, mask seal quality, and other data over time. My doctor can access a more detailed version of that data, along with controls to adjust my airflow settings from his browser. To encourage me to wear the device, and not be discouraged if a night on the device doesn’t go well, I receive twice weekly emails from ResMed congratulating me for good sleep practice. For example, September 17th I received the following message³:

Congratulations on earning the SILVER badge! You’ve earned this badge because you’ve used your machine for at least four hours a night for five days in a week. Using therapy consistently takes a lot of hard work and dedication.

Be proud of your accomplishment and know that using your therapy can have a significant impact on your quality of life.

...

81% of people with OSA who use CPAP for more than seven hours a night have less daytime sleepiness after three months.

If you like you can log in to myAir now to share your accomplishment with family and friends on Facebook and Twitter.

...

Sleep well!

The myAir Team

The first tidbit of note from the email is the prompt to broadcast my airtime accomplishments on social media. The gesture seems a strange combination of patient-positive normalizing of CPAP machine usage, and guerilla marketing. I can imagine a social media posting: “New Post from Cliff and ResMed – how’s your breathing? Click here to learn more!” [Note: this is not an actual post.] Indeed, commercial airtime for the brand, using my airtime.

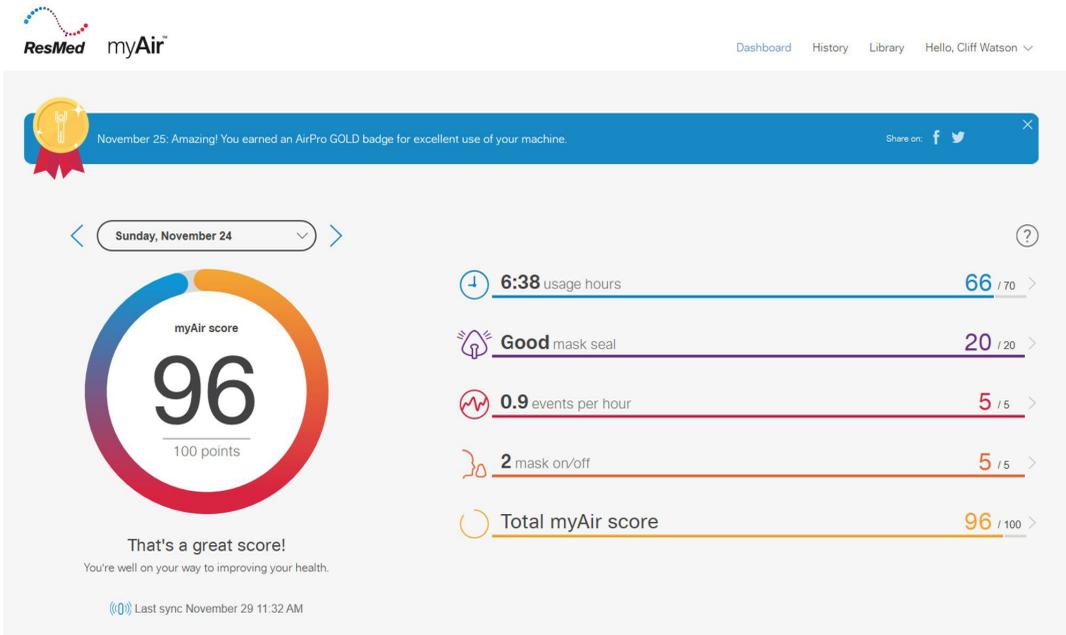
Badges in the above email, and encouraging banners like “November 25: Amazing! You earned an AirPro GOLD badge for excellent use of your machine.”⁴, also appear on the dashboard as seen in Figure 1.

These gamification tools, with points and awards, are to excite and incite me to keep using the device and, of course, continue to buy more device supplies (filters, tubes, et al.) It is interesting that both a corporation, and my doctor whom I only see by rare appointment, for he is booked out months in advance as there is heavy demand for sleep doctors, have greater access to and control of my data and device functionality than I do. The keys to my airtime, my energy flow, controlling the nighttime airflow for my lungs, are in the hands of big business and a mysterious seldom-seen wizard, who twiddles

² The ResMed MyAir Dashboard, a separate login is required for each customer.

³ Personal email from myAir noreply@myair.resmed.com, September 17, 2019. Only a portion of the email is included.

⁴ Dashboard data accessed November 29, 2019 9:05 PM.



the airflow controls with secret method and arcane touch. So, my airtime has a longer-scale arc, a slow drift of adjustments over months. If my humid airtime is my sleep weather, then the gross adjustments are climate control. It seems like a form of body control, for I have lost some autonomy. Because of this, prescribing an airtime machine seems more loaded with meaning than prescribing medication. When you fill that Rx, you're using a device that provides a (mechanized) internal impact to you via airflow, like a breathing medication could, yet also maps onto your body a new powered breathing space, a cyborg-like extension that changes your insides while still connected outside. Additionally, you're filling a prescription for extending yourself into a living digital identity, for through a dose of surveillance, with a "live connection" to big business and the medical establishment, the boundary is blurred between key parts of your personal identity, such as the rhythm of your breathing, and the synchronized digital world. To paraphrase the Borg, the all-powerful alien civilization from Star Trek, you have been assimilated.

Research – from Fatigue to Dreams

Of course, if that is the price that I have to

pay, then I am paying it... for now. Fatigue will not help me to achieve any personal goals. As summarized in the Sleep Research Society's journal SLEEP, poor sleep is party to all kinds of health problems, including coronary heart disease, depression, diabetes, et al. (Buysse 9-17). Interestingly, one strong motivator for research on fatigue is – airtime! That is, keeping aviators awake behind the controls of an aircraft. Apropos, sleep experts quoted for the guide *Fatigue in Aviation: A Guide to Staying Awake at the Stick* estimate 95% of fatigue incidents result "either from sleep deprivation or undiagnosed, untreated sleep disorders rather than boredom, monotony, stress, or unclearly defined biological processes" (emphasis mine) (Caldwell 15).

On the artistic side, consider fatigue's open-mouthed youth in *A Connoisseur and Tired Boy*, engraved by Philip Dawe (British, 1745? –?1809). Boredom, a long day, fatigue from holding the painting, poor sleep, could all lead to an impertinent yawn before the Italian art buyer. And a yawn is the momentary intersection of airflow with fatigue. But consider another possibility: he could be expressing a mournful or weary song, the spontaneous intersection of

fatigue, airflow, and improvisatory musicality, thereby giving much for the art buyer to consider visually and aurally. The impetus behind a sleep- or fatigue-induced airflow experience is not always obvious, and this complexity inhabits both our sleeping and waking lives.

Besides the physical airtime of the CPAP, when sleep is achieved there may be a corresponding airy drift in the world of slumber. Floating between wakefulness and sleep, in and



{{PD-US}}: <https://commons.wikimedia.org/wiki/Template:PD-US>

out of sleep's phases, drifting into dreamland. In particular, the airtime of dreamland is known as a flying dream, a category of what Bulkeley in *Big Dreams* calls mystical dreams that focuses on "physical power and individual freedom" (11). In flying dreams, the body creates "a vividly realistic experience of liberation from gravity and from all that gravity represents", often with great personal metaphorical significance. In the United States, the highest incidences of flying

dreams occur in the 30-49 age range, when 58% of American women and 50% of American men have them (Bulkeley 4). While I am in that age demographic, as far as I am aware, I am not a flying dream participant for I cannot remember a single personal-gravity-defying dream. Perhaps as a child I internalized Casey Kasem's popular weekly Top40 admonition, "Keep your feet on the ground and keep reaching for the stars" (Am. Top40)?

While pondering in dreamland, a quick aside. Consider what it means to be restless. The urge to move and follow your dreams. Or, to be lacking rest, to be rest-less. Dreams can't be fulfilled when one is without rest, for according to Fox, et al., in *Frontiers in Human Neuroscience*, "both daydreaming and dreaming ... and their associated subjective content, are strongly correlated with the "resting state" and REM sleep, respectively" (2). This word contradiction requires a well-slept-restlessness for the rest-less individual to be fully enabled for dream-chasing. There are dreams that would never have existed had I not been enabled for successful rest by starting CPAP therapy this fall. In a way, the CPAP device is an imagination generator, producing complex metaphoric fantasies from a little bit of airflow, like the proverbial gentle breeze from the flap of butterfly wings leading to a rainstorm. Perhaps some of my dreams will be flying dreams, and in my airtime I will swoop over UW Bothell clad in black, keeping the crows company.

A Different Kind of Airtime

While I may not recall flying dreams, I have dreamt about a different kind of airtime: singing, my voice flying over an orchestra in live performance, or recording a song for airtime play. I have done these things in real life as an opera singer, in a musical role, or in a choir, but the dreams generally have a different twist: I'm a last-minute replacement in a show I haven't rehearsed, or my costume is wrong, or someone hands me unfamiliar music. As always, the show must go on.

Singing is a full-being activity, engaging your physical core, your musical intellect, and your emotional/dramatic impulses. I have had professional voice lessons since the early 1990s⁵ and from those lessons, and singing in the theatre, I have a good understanding of the skills necessary to produce beautiful, sustained, and emotive song. The physicality of singing involves balancing appropriate levels of support from the diaphragm, sound placement, relaxation of muscles (in the throat, tongue, et al.), and clarity of enunciation. Layered on top of that is the musicality to sing the song as desired stylistically, and the emotiveness appropriate to the character of the piece or stage character you are inhabiting. Essential to this process is proper airflow whereby the amount of air passing through the vocal cords is sufficient to enable phonation, but not so great as to require back-pressure/tension in the throat to keep the vocal cords in place. And, of course, the air-time, for duration of notes and accuracy of musical attack.

I have two “special” aspects of air-at-different-times: singing and “CPAPing”. What happens if I bring them together, bridging night and day, so that the time drops out of the air equation? Or perhaps the time becomes the temporally defined Venn diagram intersection of night/day (dawn and dusk?), singing/CPAPing, phonating/trying-to-not-phonate [snore]. They are opposite activities in some ways, for one promotes optimal free sound resonance, while the other promotes silence via lack of snoring, a side-effect of sleep apnea. One is usually performed standing, the other lying down. One is performed in a fully aware state, the other rooted in a land devoid even of dreams. Indeed, while singing can be done privately in the shower, it is generally regarded as a public, performative act, while CPAP usage is most definitely regarded as an intimate, private event conducted in one’s bedroom.

The two activities are related in other ways. The focus of both is to keep an open throat devoid of excess tension, in one case to produce a free sound, in the other to prevent oxygen-deficiency and snoring. Singing has the flexibility to incorporate some aspects of CPAPing in interesting ways. I performed⁶ in the duet scene *Barcelona* in Stephen Sondheim’s *Side by Side* by Sondheim while lying horizontally on the stage, pretending to be in bed while my stewardess lover, to my chagrin, agrees to stay with me rather than fly away to Barcelona (she chose non-airtime). While not my specialty, drunken singing is probably a bit closer to the fuzzy state of a sleepy person (although I’m guessing this case may introduce excess throat tension due to performer exuberance).

The participants in the ethnographic studies in Turkle’s *Inner History of Devices* had to exist in transitional periods and spaces as they adjusted to new ways of living with medical (and other) devices such as dialysis machines or prosthetics, living with the ambivalence of how they experienced life events and existed with those events internally afterwards, and listening deeply to their bodies and minds for clues on how to cope (38, 145). There is surely no right or wrong way to approach the liminal CPAP-singing state other than making sure I listen and react to what my body does as airflows collide, and to the sounds I produce. The health stakes are low in this endeavor, but the artistic stakes are as high as I choose.

The performance/experiment consisted of three parts, all executed and recorded in my living room. First, I sang “Sleep” by Ivor Gurney to piano accompaniment⁷ twice, once using the CPAP device and once without. Second, I recited the Shakespearean sonnet “The other two, slight air and purging fire” while using the CPAP device. Third, I recorded ambient CPAP noises, including breathing on the device and the air noise from the mask when it is not

⁵ Erich Parce, my voice teacher, 1992 – present, from personal communication/instruction.

⁶ Cast member of “*Side by Side* by Sondheim” by Stephen Sondheim. Second Story Repertory. Redmond, WA. January 19 – February 10, 2007.

worn but rather blowing near the microphone. I determined how I wanted the audio tracks mixed and two recordings were produced with the gracious assistance of my personal audio engineer⁸.

The first recording, approximately 1 minute long, combines all of the sounds into an overlapping sound collage with poem recitation in the foreground.

The second recording, approximately 3 minutes in duration, allows more space between elements with some overlap. It includes two offset tracks of CPAP breathing, and splits the song performances in half (first without, then with the CPAP) around the poem recitation. It omits the air-blowing track.

The recordings are available here: <https://soundcloud.com/cliffwords/sets/airtime-technological-autobiography/s-FHezx>.

In the recording process, it immediately felt strange to share the CPAP device in the less-intimate space of the living room, out-of-place close to the piano and sofa, and odd to wear the mask before uncovered windows. The socialization of my relationship with this usually intimate device continues with the exposure of my performative state and sounds with the device through recordings, listened to “live” with my classmates. Some may be reticent to so expose what others might perceive as a “flaw”. I am not embarrassed by such activity, however, for I’ve discussed the device publicly on multiple occasions, and normalizing medical devices helps others who may benefit from learning about treatment options. Perhaps the next logical step is a “live” concert so that the audience can experience musical and airflow trials and tribulations first-hand.

There were definitely non-optimal aspects of singing and reciting text while wearing the device. The airflow from singing was generally

sufficient to overcome pressure from the incoming CPAP flow. Some minor challenges arose when more “difficult” parts of phrase arose, such as near the top of my vocal range, or when making a gentle cutoff of a quiet sustained note. Having a mask in my nostrils made me sound like I had sinus-congestion. Reciting was definitely harder, and I frequently felt like I was drowning in air, fighting to get words out. For both reciting and singing, gentle moments and ending syllables of words/phrases were more challenging for the airflow balance felt most out-of-whack. With some practice I think I could do a better job with vocal support to obviate some difficulties.

Besides the vocal challenges mentioned, I was also suffering from a cold during the recording session with coughing and asthmatic wheezing. Airtime with a CPAP, plus illness, gives us a sub-par performance: err time.

While far from an impartial observer, aesthetically the background of breathing sounds under the voice/piano recording sends me alternately to the coast, the ocean crashing upon the shore, and flying through roiling clouds, billowing ever greater with the device’s crescendo of air. My throat catches as I hear the sonnet read, remembering the conflict within my air column that halted smooth delivery. Ending the recording with the sounds of breath, vocalizations complete, restores order once more to the essential cycle of intake-release.

Intervention and Conclusion

Subjecting my very life to the whispers of CPAP technology incurs the costs of the whims of mechanism, and the invasiveness of a corporation. My time is no longer my own, for my freedoms are regulated by a device, an airtomoton that determines when I socialize with my spouse, when I am a good boy, when I am to serve it by regularly cleaning its components, all while piping pieces of my existence at the

⁷Lili Kung, my spouse and favorite accompanist.

⁸ Lili Kung mixed the tracks using Audacity software.

most vulnerable, most intimate period of my day into the corporate cloud. But I protest, and I won't go down without a fight – or at least a song. CPAPing a tune allows me to repossess my airflow and expand my artistic presence into new dimensions. I expand my artistic expression in the physical world through new forms of emotive song and recitation. I also expand the measure of my digital artistic identity, for my personal information, previously cut-and-dried in content and contention, that is headed to their cloud, a digital domain with unclear boundaries of space and influence, is now foggy with my artistic performance data, and is enshrouded with unexpected originality. I am creating my unique voice by challenging the CPAP status quo, usurping its agenda through artistry in flagrant disregard of its intentions to script my behavior and manage my compliance. I claim back my airtime identity in the name of creativity, of art, of music, of individuality.

Airtime is not merely a participatory experience. It is an emotion, a tie that binds the sleeper to success in the waking hours, the dreamer to mystical visions, the singer-actor to his audience, an essential component for a healthy life. One of the most glorious feelings is to wake, well rested, after a satisfying night's sleep. Let's start there.

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