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THE STATE OF SOUTH CAROLINA
In the Court of Appeals

APPEAL FROM SPARTANBURG COUNTY

Court of General Sessions

The Hon. Lawton McIntosh, Circuit Court Judge

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SC Court of Appeals

Case No. 2013-000817

The State. . . . . Respondent.

v.

Charles Cain . . . . . Appellant.

FINAL BRIEF OF APPELLANT

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STATEMENT OF THE CASE

This appeal arises from the South Carolina Court of General Sessions where Charles Cain (Appellant) was convicted of attempted trafficking of methamphetamine under Section 44-53-375 (B) of the South Carolina Code of Laws. This case presents a matter of first impression in South Carolina as to whether an attempted trafficking conviction may be based solely on expert testimony that it was "theoretically" possible that the accused could have committed the offense.

FACTUAL BACKGROUND -

On January 17, 2012, Deputies of the Spartanburg County Sherriff's Office arrived at 371 Dakota Street in an effort to serve a bench warrant for Travis Kirby. (R. 37). Upon arrival they were greeted by Appellant, who explained that he did not know Kirby. Appellant informed the deputies that he was renting a single bedroom in the house and that he did not go into the other areas of the house. (R. 38). In searching the house for Kirby, in a bathroom the deputies noticed a bottle with tubing running from the top of the bottle out a window. (R. 40). The deputies recognized this object as potentially involved in the production of methamphetamine. (R. 40-41).

Forensic chemist, Beth Stuart with the Spartanburg County Sheriff's Office was called to the scene. (R. 70). At trial, Stuart was qualified as an expert in "forensic chemistry." (R. 72). Based on her experience Stuart identified the bottle the deputies saw a "gas off" bottle which appeared to be remnants of the "one pot" method of making (aka "cooking") methamphetamine. (R. 91). Stuart testified that this "one pot" method requires combining pseudoephedrine, ammonia prills, an organic solvent (typically lighter fluid), lithium (typically removed from batteries), and lye into a bottle (aka the

"one pot"). (R. 84). The product of the "one pot" reaction is then placed in a "gas off" bottle with muriatic acid (drain cleaner) and salt. (R. 79). Chemical reactions will eventually yield methamphetamine which is then filtered off the liquid remaining. (R. 87).

As part of her investigation Stuart cut open several garbage bags that she found both inside and outside of the house. In these bags Stuart found batteries which had been split open, (R. 81-82), a cold pack (R. 86), coffee filters (R. 80), and various empty pseudoephedrine "blister packs"[1] (R. 94). Had these various blister packs not been empty, Stuart presumed they would have contained a total of 19.2 grams of pseudoephedrine. (R. 94). There was no actual methamphetamine found at the scene and there was no testimony of an organic solvent, lye, salt, or lithium being found at the house.

Stuart also found at least six used and discarded "one pots" (three in a garbage bag in the living room and three more found in a garbage bag outside). (R. 86 & R. 89-90). Stuart explained that "each one pot [is] a reaction that they've performed that they've left for us to find in the trash." (R. 90: ln. 12-13).

PROCEDURAL BACKGROUND-

Because law enforcement only found remnants of methamphetamine production – and no actual methamphetamine – the State proceeded on a theory of attempted trafficking. To support this theory the State offered an opinion from Stuart that the "theoretical yield," or the amount of methamphetamine that was theoretically possible to produce had the empty pseudoephedrine packs hypothetically been full, was in excess of ten grams.

[1] A "blister pack" is the plastic pill packaging device that is foil backed so that pills can easily be popped out.

Before trial, Appellant moved to dismiss the trafficking charge, arguing the trafficking statute contemplated an actual weight of methamphetamine and the charge cannot be based on a theoretical quantity alone. (R. 14). Appellant noted that an "attempt" contemplates that you "have the components [to make methamphetamine in the future] not that you have done it." (R. 16: ln. 23-24). Counsel argued there was "nothing in South Carolina law that says you can take a 'theoretical yield' based on evidence found and make it into a trafficking case." (R. 12: ln. 16-19).

In response, the State offered *State v. Knapp*, 787 N.W.2d 218 (IA Ct. App. 2009) – an unpublished opinion from the Iowa Court of Appeals – in support of the purported use of the "theoretical yield" testimony to show appellant was attempting to manufacture ten grams or more of methamphetamine. (R. 14: ln. 24). The court took the matter under advisement, electing to proceed with the trial while it was considering Appellant's motion. The motion was later incorporated into Appellant's motions for a directed verdict. (R. 26).

During the trial, Stuart was qualified as an expert in forensic chemistry. Her testimony suggested that the theoretical yield is apparently derived from a theoretical mathematical equation. (R. 92). In explaining the calculation Stuart stated that "I can see how much starting stuff they had and work my way to how much product they could of [sic] made with that starting stuff." (R. 92: ln. 20-23). Further elucidating, "It's an equation . . . where you use the weights of all the different compounds in it to determine theoretical yield." (R. 92: ln. 25 – R. 93: ln. 3).

The State, then asked Stuart to calculate a theoretical yield of methamphetamine, assuming all the missing pseudoephedrine was present and used in a single reaction. (R. 94). Appellant objected to the admission of this opinion testimony questioning its

reliability and doubting whether it arose from "some learned treatise." (R. 95: ln. 15-16). The Court overruled the objection subject to the State laying further foundation. (R. 96). The State then established that Stuart had taken several chemistry classes and had conducted experiments in which she calculated theoretical yields in the past. However, the State did not established what the equation for theoretical yield was, how the equation was developed, whether this particular equation had been tested, or whether this particular equation had been peer reviewed. (R. 96-98).

On Appellant's *voir dire* of Stuart she admitted that the "theoretical yield" equation was a variation of "pseudoephedrine, plus lithium, plus ammonia gas yields methamphetamine." (R. 100: ln. 2-3). During this questioning, Stuart again did not establish precisely what the equation was.

Appellant's counsel proceeded to ask whether Stuart's theoretical yield equation had ever been tested or proven during her previous laboratory experiments in which she had produced methamphetamine. (R. 101). Specifically, Appellant's counsel asked: "Did you start with an amount of Sudafed and other things and say 'I should get this much [methamphetamine] and go through it [(the experiment)] and get that much?" (R. 101: ln. 5-7). Stuart was unable to answer this question. (R. 101).

Over Appellant's objection the Court permitted Stuart to opine that the "theoretical yield" from the hypothetical 19.2 grams of pseudoephedrine that would have been contained in the empty blister packs could be 17.62 grams of methamphetamine. (R. 102) This opinion apparently assumed the necessary quantities of lithium and ammonia were combined with the hypothetical quantity of pseudoephedrine. (R. 102). Stuart also admitted the theoretical yield was based on a 100% yield attainable only under ideal "laboratory conditions." She did not testify as to what Appellant's potential yield or

expected percentage yield would have been in his home lab – it suffices that it would be less than 100% of the theoretical yield. (R. 103 & R. 105: ln. 2-6).

At the close of the State's case, Appellant moved for a directed verdict, arguing there was insufficient evidence of custody and control of the requisite ingredients to establish intent to traffic in methamphetamine. This motion incorporated Appellant's previous motion to dismiss regarding the use of the theoretical yield. The trial court denied the motion as to Appellant's custody and control argument and took under advisement the "theoretical yield" argument, electing to take it up at the close of all evidence. (R. 116-19).

At the close of all evidence, the Court denied Appellant's renewed directed verdict motion and motion regarding "theoretical yield." (R. 132). Appellant was convicted of trafficking methamphetamine and sentenced to ten years' imprisonment.

ISSUES ON APPEAL

I. Did the trial court err in admitting Stuart's expert scientific testimony on "theoretical yield?"

II. Did the trial court err in denying Appellant's directed verdict when the only evidence of Appellant's intent to manufacture ten grams or more of methamphetamine was the hypothetical "theoretical yield" testimony?

ARGUMENT

This case involves the interplay between the offense of "trafficking" methamphetamine[2] and the lesser included offense of "manufacturing" methamphetamine.[3] "Trafficking" and "manufacturing" have substantially the same elements with the added requirement that "trafficking" contemplates that the quantity of

[2] S.C. Code Ann. §44-53-375 (C).
[3] S.C. Code Ann. §44-53-375 (B).

methamphetamine involved in the conduct be greater than or equal to ten grams. *Compare* S.C. Code Ann. §44-53-375 (C) ("A person who knowingly . . . manufactures, . . . [or] attempts . . . [to] manufacture . . . ten grams or more of methamphetamine . . . is guilty of a felony which is called 'trafficking' in methamphetamine.") *with* S.C. Code Ann. §44-53-375 (B) ("A person who manufactures, . . . or otherwise aids, abets, attempts, or conspires to manufacture, . . . methamphetamine . . . is guilty of a felony[.]")

Because, only used and discarded paraphernalia, and no methamphetamine was found, the State's case was one of "attempted" trafficking. Attempt is an inchoate offense requiring a "specific intent" to commit the completed offense. *State v. Nesbitt*, 346 S.C. 226, 231, 550 S.E.2d 864, 866 (Ct. App. 2001). "In the context of an 'attempt' crime, specific intent means that the defendant consciously intended the completion of acts comprising the choate offense. In other words, the completion of such acts is the defendant's purpose." *State v. Atieh*, 397 S.C. 641, 650, 725 S.E.2d 730, 735 (Ct. App. 2012) (*citing State v. Sutton,* 340 S.C. 393, 397, 532 S.E.2d 283, 285 (2000)).

Section 44-53-375 (D) of the South Carolina Code provides that possession of equipment and paraphernalia used in the manufacture of methamphetamine is *prima facie* evidence of intent to manufacture. However, this section does not impose a presumption as to the quantity or weight of methamphetamine, and in an attempted trafficking prosecution the State still must prove the defendant's intent was to produce the requisite amount of methamphetamine. *See* S.C. Code Ann. §44-53-375 (C) (the defendant must knowingly attempt to manufacture ten or more grams of methamphetamine)[4].

In an effort to prove this intent the State offered the expert testimony of Stuart as to a "theoretical yield" of methamphetamine. Stuart opined that under the Solicitor's

[4] All the parties acknowledged that the State was required to prove the intent was to manufacture ten or more grams of methamphetamine. (R. 20).

proposed hypothetical scenario in which all the empty pseudoephedrine packets were full, it was theoretically possible to create in excess of ten grams of methamphetamine.

The Court admitted this expert testimony over Appellant's objections, and this evidence served as the only basis for proceeding on the trafficking charge rather than proceeding only on the lesser included offense of manufacturing. Appellant contends the trial court erred in; (I) admitting Stuart's expert testimony, and (II) failing to grant a directed verdict on the greater offense of trafficking.

I. Did the trial court err in admitting Stuart's expert scientific testimony on theoretical yield?

Appellant does not dispute that Stuart is well credentialed, instead Appellant's objection focused on the admissibility of her "theoretical yield" opinion (R. 94). The issue in this case is the reliability of the methodology Stuart employed and the ultimate opinion she rendered. In South Carolina there are procedural mechanisms required for the admission of expert testimony. The State completely ignored these procedures. Therefore, the trial court erred in admitting this evidence for two reasons: (1) the State failed to prove the reliability of Stuart's methodology under the *Jones* standard, and (2) the State failed to prove Stuart's conclusion was supported by evidence.

(1) The trial court erred in admitting Stuart's expert testimony because the State failed to establish that her methodology was reliable under the *Jones* standard.

The general rule requires that after qualifying a witness as an expert the trial court must evaluate the reliability of the testimony before it may be admitted. *See e.g.*, *State v. White*, 382 S.C. 265, 270, 676 S.E.2d 684, 686 (2009) ("All expert testimony must satisfy the Rule 702 criteria, and that includes the trial court's 'gatekeeping' function in ensuring the proposed expert testimony meets a reliability threshold for the jury's ultimate consideration.").

The reliability of scientific expert testimony is determined by application of the "*Jones* standard," which provides that "the standard for admitting scientific evidence" is "the degree to which the trier of fact must accept, on faith, scientific hypotheses not capable of proof or disproof in court and not even generally accepted outside the courtroom." *State v. Jones,* 273 S.C. 723, 731, 259 S.E.2d 120, 124 (1979).

In applying the *Jones* standard the Court "looks at several factors, including: (1) the publications and peer review of the technique; (2) prior application of the method to the type of evidence involved in the case; (3) the quality control procedures used to ensure reliability; and (4) the consistency of the method with recognized scientific laws and procedures." *State v. Council*, 335 S.C. 1, 19, 515 S.E.2d 508, 517 (1999) (*citing State v. Ford*, 301 S.C. 485, 392 S.E.2d 781 (1990)). The trial court's admission of this evidence is reviewed under an abuse of discretion standard. *White,* at 269 676 S.E.2d at 686.

In this matter, Stuart's opinion was the product of an apparent chemical equation or formula. However, the State presented no evidence whatsoever as to any of the *Council* factors in support of the method Stuart used to calculate her theoretical yield equation or how that equation was applied to the facts. Specifically, trial counsel's objection raised concern about the reliability of the opinion due to its theoretical nature and questioned whether Stuart's formula was based on "some learned treatise." (R. 95). In response the State merely offered that Stuart had training and experience in developing formulas and conducting chemical reactions.

Initially, the State never even established what Stuart's formula was or how she developed it. There is no indication the formula, or its application, had ever been peer reviewed or subject to scientific testing. There is no testimony that the formula or its

application has been accepted or proven as a viable means of calculating methamphetamine production. The State offered nothing to indicate the quality control measures that may be used to ensure the accuracy of this unspecified formula.[5] In short, the State offered no foundation that supports the reliability of Stuart's methodology.

Rather, the only testimony that explored any of the *Council* reliability factors came on *voir dire* from Appellant in which Stuart was asked if she tested her equation during her prior experiments in producing methamphetamine to ensure its accuracy. *See Council*, at 19, 515 S.E.2d at 517 (indicating that two of several factors to consider are prior application of the method to evidence of the type in the case and the consistency of the method with established scientific laws and principles). Specifically, Appellant asked if in Stuart's past experiments in producing methamphetamine she was able to prove her equation by actually achieving her calculated theoretical yield. (R. 101). However, Stuart responded that she could not recall. (R. 101).

Without evidence of the *Council* factors, Stuart's expert testimony was nothing more than mere speculation disguised as expert testimony. The State's failure to address even a single *Council* factor, left the jury to accept the expert opinion on faith with no indication that it could be proved or disproved. *Contra Jones,* at731, 259 S.E.2d at 124 (stating that the standard for the admission of scientific expert testimony is "the degree to which the trier of fact must accept, on faith, scientific hypotheses not capable of proof or disproof in court and not even generally accepted outside the courtroom."). With no indication of reliability, the testimony does not comport with Rule 702, SCRE, as it cannot assist the trier of fact in making a determination on any fact in issue. *See* Rule

[5] Stuart essentially asked that her theory simply be trusted, summarily asserting that she could make such calculations based on a non-specified formula stating: "if you give me right now some milligrams and the number of tablets and want me to tell you a theoretical yield for it I'll be more than happy to." (R. 99: ln. 13-15).

702, SCRE (providing for the admission of expert testimony only if it will assist the trier of fact in determining a matter in issue).

Therefore, without the State offering any evidence as to any *Council* factor to support the reliability of Stuart's methodology, the trial court committed reversible error in admitting this theoretical yield testimony over Appellant's objection. This Court should reverse the trial court's ruling.

(2) **The trial court erred in admitting Stuart's testimony because the State failed to establish that Stuart's conclusion was supported by facts.**

Stuart's opinion was entirely based on speculation in a hypothetical scenario, proposed by the Solicitor, in which all the empty pseudoephedrine packs were full. Her opinion was ostensibly the product of a mathematical equation she developed through which she could solve for methamphetamine if she was given a quantity of pseudoephedrine and assuming all other ingredients/variables (i.e. lithium and ammonia) were constant. However, there is no evidence that sufficient quantities of these other necessary ingredients were found at the scene.

Generally speaking an expert witness's opinion must be based on verifiable facts, although such evidence need not necessarily be admissible. Rule 703, SCRE. Although the expert may offer an opinion based on hypothetical facts, those facts must have evidentiary support. *See generally Campbell v. Paschal*, 290 S.C. 1, 17, 347 S.E.2d 892, 902 (Ct. App. 1986) ("The facts used in a hypothetical question presented to an expert witness must have some evidentiary support.") (citing *Young v. Tide Craft, Inc.*, 270 S.C. 453, 242 S.E.2d 671 (1978)); *Brown v. La France Industries,* 286 S.C. 319, 333 S.E.2d 348 (Ct.App.1985; *see also Newman v. Hy-Way Heat Systems, Inc.*, 783 F.2d 269, 270 (4th Cir. 1986) ("It is fixed law that an expert can give his opinion on the basis of

hypothetical facts, but those facts must be established by independent evidence properly introduced.").

Initially, it's significant to reiterate that Stuart never specified what her formula for calculating theoretical yield was. However, during *voir dire*, she conceded that the theoretical yield depends on ingredients in addition to simply pseudoephedrine. Specifically, Stuart clarified "it's all about making equations and determining if you put these things together **in these amounts**, what amount of your product you get." Stuart testified the equation is, in essence, a variation of "pseudoephedrine, plus lithium, plus ammonia gas[,] yields methamphetamine."(R. 100: ln. 2-3) (emphasis added). Naturally, the yield of methamphetamine would be impacted if these ingredients are not added in the necessary amounts. As Stuart stated: "It's an equation . . . where you **use the weights of all the different compounds** in it to determine theoretical yield." (R. 92: ln. 25–R. 93: ln. 3) (emphasis added). However, Stuart provided no testimony as to what amounts of these other ingredients were found at the scene.

At the beginning of the trial, the trial court described his understanding of the State's theory by stating: "the State intends to have a fairly novel approach to this case in that they're gonna [sic] establish trafficking through extrapolation from the aggregate components to say that a yield would have been more than a trafficking amount." (R. 6: ln. 1-4). The State agreed this was an accurate description of its theory. (R. 6: ln. 6-7). However, the State offered no evidence as to what amounts of these aggregate ingredients were found, instead it had Stuart rely solely on a hypothetical amount of pseudoephedrine. Thus, the quantity of methamphetamine was not "extrapolated" from the aggregate components. The State could have easily offered testimony as to the amount of lithium and ammonia that had been present at the scene so that Stuart could

have offered an opinion that in combining the hypothetical amount of pseudoephedrine with this amount of lithium and ammonia, Appellant could have expected a certain amount of methamphetamine. But the State offered no such evidence.

Consequently, Stuart's opinion, in addition to being based on a hypothetical amount of pseudoephedrine, must also have simply presumed sufficient quantities of the other necessary ingredients. Her opinion does nothing more than affirm that the Solicitor's hypothetical scenario is a mere possibility. However, because the Solicitor's hypothetical scenario relies on pseudoephedrine that does not exists, and presumptions as to the quantity of the other necessary ingredients, the Solicitor's hypothetical is not supported by evidence. An expert opinion based on a hypothetical not supported by facts is improper; thus, the reliability of Stuart's opinion is immediately cast into doubt. *See Paschal*, at 17, 347 S.E.2d at 902 ("The facts used in a hypothetical question presented to an expert witness must have some evidentiary support.").

In sum, not only did the State fail to establish Stuart's expert opinion was reliable under the *Jones* standard and the *Council* factors, but without evidentiary support it is little more than mere speculation disguised as expert testimony. Therefore, the trial court failed to properly conduct its gatekeeping duty and erred in admitting the expert opinion over Appellant's objection. This Court should reverse and remand the matter for a new trial.

II. The trial court erred in failing to grant a directed verdict as there was insufficient evidence of intent to manufacture in excess of ten grams of methamphetamine.

Assuming that Stuart's testimony was admissible under *Jones* the trial court nonetheless erred in failing to grant a directed verdict on the trafficking charge as there

was not substantial circumstantial evidence of Appellant's intent to manufacture ten or more grams of methamphetamine.

When ruling on a motion for directed verdict the trial court is concerned with the existence of evidence, not the weight. *State v. Lane*, Op. No. 5175 (S.C. Ct. App. filed Oct. 9, 2013) (Shearouse Adv.Sh. No 43) at 17, 19 (citing *State v. Brannon*, 388 S.C. 498, 501, 697 S.E.2d 593, 595 (2010); Rule 19, SCRCrimP. An issue is properly submitted to the jury if there is direct evidence or **substantial** circumstantial evidence, which reasonably tends to prove the guilt of the defendant. *State v. Odems*, 395 S.C. 582, 586, 720 S.E.2d 48, 50 (2011) (emphasis added). The trial court should grant a motion for directed verdict if the evidence merely raises a suspicion that the defendant is guilty. *Id.* On review this Court should view the facts in the light most favorable to the State. *Lane* Op. No. 5175, at 19.

The plain language of the trafficking statute at Section 44-55-375(D) does not criminalize the "theoretical" possibility of trafficking methamphetamine.[6] Instead the State averred that the theoretical yield went to establish an attempt to traffic methamphetamine. *See* (R. 14: ln. 9-25) (the Solicitor stating: "I would rely on the portion [of the statute] where it says 'knowingly attempt.'" . . . And Judge, in this case we

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[6] S.C. Code Ann. Section 44-53-375 (C) provides in pertinent part:

> A person who knowingly . . . manufactures, . . . [or] attempts, . . . [to] manufacture, . . . or who is knowingly in actual or constructive possession or who knowingly attempts to become in actual or constructive possession of ten grams or more of methamphetamine . . . is guilty of a felony which is known as "trafficking in methamphetamine[."]

would argue that [Appellant was] attempting to manufacture methamphetamine and the attempt to [was] to manufacture more than, a theoretical yield of more than 10 grams.").

Under a theory of attempt, the State must prove specific intent beyond a reasonable doubt; which, "[i]n the context of an attempt crime, specific intent means that the defendant consciously intended the completion of acts compromising the choate offense. In other words, the completion of such acts is the defendant's purpose." *State v. Atieh*, 397 S.C. 641, 650, 725 S.E.2d 730, 735 (Ct. App. 2012) (citing *State v. Sutton,* 340 S.C. 393, 397, 532 S.E.2d 283, 285 (2000) (internal quotation marks omitted)). The intent of the defendant is a question of fact, typically shown by acts or conduct that can "naturally and reasonably" infer the intent. *Atieh*, at 650, 725 S.E.2d at 735. If the State fails to present substantial circumstantial evidence of intent or if the evidence creates only a mere suspicion of guilt, the motion for directed verdict must be granted. *Id.*

The State's evidence as to Appellant's intent, is best summarized by a single exchange between the State and Stuart:

> Q: Now, if you take the 19,200 milligrams of . . . the empty packets of Sudafed [(pseudoephedrine)] that had been there - - - and you were going to attempt to manufacture methamphetamine, and you got a one hundred percent yield - - - how much methamphetamine could you manufacture?
> A: 17.62 grams.
> Q: And that's under laboratory conditions?
> A: Yes.

(R. 102: ln. 16 – 103: ln. 3)

The State's case rests upon a theory that intent may be inferred from Stuart's testimony that by totaling all the missing pseudoephedrine it is theoretically possible to produce in excess of ten grams of methamphetamine. However, this theory presupposes; (1) that Appellant could have expected this type of percentage yield in his attempt to manufacture the methamphetamine, and (2) that all of the precursor materials (i.e.

pseudoephedrine) were in Appellant's possession and control at a given time as part of single act. Neither of these presumptions is supported by evidence and as a result the trial court erred in denying Appellant's motion for a directed verdict.

(1) In a prosecution under the trafficking statute the State is required to present evidence of "potential yield" and may not rely simply on a hypothetical "theoretical yield."

The question of whether theoretical yield evidence is alone sufficient to establish intent in a trafficking case is novel in South Carolina. This Court should find that a trafficking prosecution requires more than theoretical evidence, instead requiring some evidence as to the particular defendant's "potential yield."

To permit reliance on a hypothetical theoretical yield[7] alone is to establish a rule that a mere hypothetical possibility that an accused could commit the offense is *per se* sufficient evidence of intent to survive directed verdict. Appellant is aware of no authority that supports such a proposition. To the contrary, our Courts have established that in order to survive a directed verdict the State must present "substantial circumstantial evidence" that supports a "natural and reasonable" inference of the accused's intent. *Atieh*, at 650, 725 S.E.2d at 735. While a hypothetical and theoretical possibility that an accused could complete a crime may be **some** circumstantial evidence of intent, the "substantial circumstantial evidence" standard demands the State submit more than a mere possibility. *See e.g., id.* (suggesting that although it may have been theoretically possible that the accused was intending to commit criminal sexual conduct on a minor when he touched the victim in a lewd way this possibility was alone

[7] Appellant notes that the evidence in this case is more attenuated than a simple "theoretical yield." Instead, because it is not based on evidence which actually exists, but evidence that is **presumed** to exist, it is more accurate to refer to Stuart's conclusion as a "**hypothetical** theoretical yield"

insufficient to support the "natural and reasonable" inference that his intent was more than the mere touching).

Although novel in South Carolina other jurisdictions have addressed this issue and highlighted that in such cases intent should not be grounded on theoretical possibility but instead on practicality. Specifically, finding that this "evidence must be based **not on theoretical yield, but on what the particular defendant could produce**." *United States v. Eide*, 297 F.3d 701, 705 (8th Cir. 2002) (emphasis added) (emphasis added) (*citing United States v. Anderson*, 236 F.3d 427, 430 (8th Cir. 2000) ("To be sure, the relevant inquire is **not** what a theoretical maximum yield would be, or even what an average methamphetamine cook would produce, but what appellant [himself] could produce.") (emphasis added).

In *U.S. v. Eide*, the Eighth Circuit confronted a similar case (however it was one where the precursor ingredients to manufacture methamphetamine were actually in existence)[8]. In *Eide*, the defendant was found with 27.6 grams of pseudoephedrine and other paraphernalia common to the production of methamphetamine – some of which actually contained trace amounts of methamphetamine. The defendant was charged with attempted manufacturing of methamphetamine in excess of five grams. At trial, an expert chemist for the Government testified that the "theoretical yield" from the 27.6 grams of pseudoephedrine was 25.39 grams of methamphetamine. *Id.* at 703-04. The expert chemist then testified that based on the procedure the defendant was employing he was achieving a "fairly good conversion rate" and his expected yield (or "potential yield") was between 40 and 50 percent. Thus, the defendant's potential yield was

[8] Unlike the case at hand, in *Eide* the accused was found to be in possession of actual pseudoephedrine instead of empty product containers.

between 10.1 and 12.6 grams of methamphetamine – far less than the "theoretical yield." *Id.* at 704.[9]

In addressing the defendant's motion for acquittal, the *Eide* Court found that in presenting evidence of how much methamphetamine a defendant intended to make, the Government's "[q]uantity yield figures should **not** be calculated without regard for the particular capabilities of a defendant and the drug manufacturing site." *Id.* at 705 (emphasis added).[10] The rationale is clear, the defendant cannot intend to create more product then he expects to yield.

Interestingly, this proposition that the prosecution must produce evidence of the accused's "potential yield" is supported by the very authority the State submitted to the trial court to support its reliance on the "theoretical yield" alone. For this, the State submitted, and the trial court relied upon *State v. Knapp*, an unpublished opinion from the Iowa Court of Appeals. 778 N.W.2d 218 (I.A. Ct. App. 2009). (R. 132). However, this case actual demands evidence of a "potential yield" – exactly what Appellant contends here.

In *Knapp*, the defendant was found in possession of 16.8 grams of pseudoephedrine and charged with attempt to manufacture in excess of five grams of methamphetamine.[11] An expert testified this had a "theoretical yield" of 15.4 grams of methamphetamine. The same expert went on to testify that this amount could be

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[9] Significantly, even assuming Appellant in this case were able to achieve this "fairly good conversion rate" of 40%-50%, his production amount would have been far less than the ten grams required by the trafficking statute.

[10] Much like our State Court motion for directed verdict, the motion for acquittal is substantially the same, challenging the sufficiency of the evidence. Likewise the appellate court is concerned with the existence not weight of evidence. Reviewing the evidence in the light most favorable to the Government and reversing only if no reasonable jury could have found the accused guilty. *Eide*, at 704-05.

[11] Again, unlike the case at hand, *Knapp* presented a case in which the accused was in possession of an actual amount of pseudoephedrine, not a hypothetical quantity.

expected to actually produce between 6 and 7 grams of methamphetamine (i.e. a "potential yield").

In addressing the trial court's denial of defendant's motion for acquittal, the *Knapp* Court held that because there was evidence that the "**potential** yield" (not the theoretical yield) was in excess of 5 grams, there was sufficient evidence to submit the issue to the jury. *Id.* (emphasis added).[12]

The case at hand demonstrates the significance of the difference between a "theoretical yield" and a "potential yield" in the context of crime in which the State must prove an intent to manufacture a specific amount of narcotics. Without evidence of "potential yield" there exists no evidentiary basis to support a "natural and reasonable" inference that this particular defendant intended to produce a given amount of methamphetamine. *See Atieh* at 650, 725 S.E.2d at 735 (in an attempt case the State must submit substantial circumstantial evidence that supports a "natural and reasonable" inference that the accused's subjective intent was the completion of the choate offense). The State seemed to intuitively understand this, explaining to the trial court that their burden was not simply to prove that the production of 10 grams of methamphetamine was theoretically possible, but that "we would have to establish the **defendants could** produce the drug . . . and the weight of the end product would have to exceed 10 grams." (R. 7: ln. 9-12). This further highlights, as the Eight Circuit has done in *Eide*, that intent must not be based on a theoretical possibility but a determination of potential yield specific to the circumstances of the case.

[12] In permitting the State's case to rest only on the theoretical yield testimony, the trial court indicating it was relying on the persuasive authority submitted by the State. (R. 132) However, it would seem that the Solicitor and the trial court mistakenly presumed a "theoretical yield" and "potential yield" were synonymous.

Without evidence of Appellant's potential yield, there is nothing more than a mere hypothetical possibility that Appellant could have completed the choate offense. However, a mere suspicion of guilt is not enough to survive directed verdict. *See Atieh*, at 650, 725 S.E.2d at 735 (directed verdict must be granted where the evidence merely establishes a suspicion of guilt). Consequently, the trial court erred in failing to grant a directed verdict. Instead, as trial counsel noted, the matter would likely have been correctly submitted to the jury on the lesser included offense of attempted manufacturing – not trafficking.

For these reasons the trial court erred in denying Appellant's motion for a directed verdict on the greater charge of trafficking in methamphetamine. Therefore, this Court should reverse the ruling of the trial court.

(2) There is insufficient evidence that Appellant had custody and control of all the precursor materials sufficient to form an intent to manufacture in excess of ten grams of methamphetamine.

Assuming that Stuart's testimony was reliable, and that this Court finds that a "theoretical yield" is alone sufficient to establish criminal intent of trafficking, it was nonetheless error to deny Appellant's motion for directed verdict because there is insufficient evidence to establish Appellant had custody and control of all the "hypothetical" pseudoephedrine.

The "theoretical yield" testimony only establishes intent if it is presumed that all the missing pseudoephedrine was used in a single episode. This presumption requires that all the pseudoephedrine be in existence at a single point in time and in Appellant's possession when it was used in the purported manufacturing. However, these inferences are not supported by the evidence.

In this case, Stuart testified that the empty pseudoephedrine packages were different in brand name and in pill size, coming from different packages. These packages were located in various garbage bags scattered throughout the house and outside the house. Similarly, Stuart testified to finding no fewer than six used "one pots," also scattered throughout the house. She explained that each of these pots represents a separate batch, saying "each one pot is a separate reaction that they've preformed and that they've left for us to find in the trash." (R. 90).

An attempt, is an inchoate offense, by definition being only partly formed, and thus not completed. *See Webster's Dic.* Attempt has been defined by our courts as "an overt act done with the intent to commit a crime but that falls short of completing the crime." *State v. Reid*, 383 S.C. 285, 293, 679 S.E.2d 194, 198 (Ct. App. 2009). Thus, by definition an attempt either ends in failure in which case it remains an attempt, or it ends in the completion of the act in which case it becomes the completed offense.

The State's theory would assume that all the ingredients and paraphernalia were all part of a single attempt. However, the evidence, in the light most favorable to the State, does not support that the hypothetical amount of pseudoephedrine was ever possessed at a single time as part of larger plan to create a quantity of methamphetamine in excess of ten grams. Instead, the only inference to be drawn is that there were either several smaller manufacturings, or several failed attempts over a period of time. All of which would be independent of the others unless there existed evidence that these separate events were part of a larger ongoing attempt – specifically a temporal connection between the various batches.

In this case there is no evidence as to how long ago these attempts were made or how long these items had been hidden away in the garbage bags. Without evidence as to

when these items were used there is no evidence to support that Appellant was the individual who had custody and control of the ingredients when they were in existence.

As trial counsel astutely pointed out, being in proximity to a former meth lab is not enough to establish an intent to traffic methamphetamine. (R. 118) Likewise, being in custody of the remnants or garbage is not alone enough to naturally and reasonably infer guilt unless there is evidence from which it can be inferred the Appellant had control of these items when they were in existence.

Without establishing a temporal relationship between the various items of paraphernalia which supports that these items were all in existence at the same time and used as part of a single attempt; and without some nexus between Appellant and the paraphernalia which supports that he was in possession of these items when there were in existence, the testimony as to theoretical yield does not establish a "natural and reasonable" inference that Appellant intended to produce in excess of ten grams of methamphetamine. Without this evidence the State has failed to produce substantial circumstantial evidence of guilt. The evidence, at best, creates a mere suspicion of guilt; however, a mere suspicion is not sufficient to survive directed verdict. *See Atieh*, at 650, 725 S.E.2d at 735.

Therefore, even assuming that the theoretical yield evidence is admissible, without providing some evidence to support that Appellant had control of the ingredients when they existed, or that these ingredients were part of a single attempt, the evidence does not create a natural and reasonable inference that Appellant intended to manufacture in excess of ten grams of methamphetamine. As such, the trial court erred in denying Appellant's motion for directed verdict on the trafficking charge and this Court should reverse the ruling of the trial court.

CONCLUSION

As outlined above this Court should reverse the trial court's ruling permitting scientific expert testimony on "theoretical yield" as the State failed to establish its reliability under the *Jones* standard, or the *Council* factors. In addition, or in the alternative, this Court should reverse the trial court's denial of Appellant's motion for directed verdict on the specific charge of "trafficking," in light of insufficient evidence that Appellant intended to produce in excess of ten grams of methamphetamine.

Respectfully Submitted,

By: [signature]

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This 24th day of July, 2014.

THE STATE OF SOUTH CAROLINA
In the Court of Appeals

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APPEAL FROM SPARTANBURG COUNTY

Court of General Sessions

The Hon. Lawton McIntosh, Circuit Court Judge

Case No. 2013-000817

The State. . . . . Respondent.

v.

Charles Cain . . . . . Appellant.

CERTIFICATE OF COUNSEL

The undersigned attorneys hereby certify that the Appellants Final Brief contains all materials proposed to be included by any of the parties and not any other material.

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STATE OF SOUTH CAROLINA
IN THE COURT OF APPEALS

Appeal from Spartanburg County
R. Lawton McIntosh, Circuit Court Judge

THE STATE,

RESPONDENT,

V.

CHARLES ALLEN CAIN,

APPELLANT

CERTIFICATE OF SERVICE

The undersigned attorney hereby certifies that a true copy of the Final Brief of Appellant in the above referenced case has been served upon David Spencer, Esquire, at Rembert Dennis Building, 1000 Assembly Street, Room 519, Columbia, SC 29201, this 24th day of July, 2014.

Robert M. Dudek
Chief Appellate Defender

ATTORNEY FOR APPELLANT

SUBSCRIBED AND SWORN TO before me
this 24th day of July, 2014.

(L.S.)
Notary Public for South Carolina
My Commission Expires: July 24, 2022.